

CELEBRATING 50 YEARS

1970 was a heady time for the environmental movement. The first Earth Day, a national grassroots demonstration and “teach-in” that helped shake the political establishment into action, took place in April of that year. Just three short months later, the Environmental Protection Agency was formed and two years later, the landmark Clean Water Act was passed (despite a presidential veto). It is in these early days of the environmental movement that Maine Lakes Society (formerly Maine Congress of Lake Associations) became a non-profit organization with a purpose to “preserve the aesthetic, recreational and commercial value of freshwater lakeshore properties through the maintenance and improvement of such environmental factors as watershed ecology, water quality, lake water levels, shoreline woodland management, agricultural soils practices, recreational and residential building standards, and related influences

such as water and boating safety education.” Those were tall orders for a small, all-volunteer organization of dedicated volunteers and lake association members! Maine Lakes Society has evolved quite a bit as an organization since that time. We’ve grown in our budget, staff and programming capacity. Look to our fall newsletter where for a timeline of MLS activities (as well as other Maine lake landmark events and milestones) over the last 50 years.

But we need your help! Did you serve on an early COLA board? Did you participate in early advocacy efforts (there were many!) or help Maine Lakes Society in its education or other volunteer efforts? We need to hear from you! Please [email Susan Gallo](mailto:susan.gallo@mainelakessociety.org) or leave her a message at (207) 495-2301. She’d love to talk to you, hear about any historical records you might have (in your head or stored in your attic) or any thoughts you have about creating a Maine Lakes Society timeline. Thank you!

MEET OUR LAKE HEROES

As part of our anniversary celebration, we are recognizing 50 Lake Heroes...people, organizations, and agencies that have been hard at work protecting Maine’s lakes and lake habitat. We’ve been sharing a hero every week on our Facebook page and website, and we’ve included our first 14 heroes here in our newsletter. We hope you find their stories inspiring. And the year’s

not over yet! Do you know someone who has sparked important programs for your lake or watershed, and seen them through to success? Is there someone whose passion for their lake inspires others to give their best? Send a short paragraph about them, along with a picture, to us at info@mainelakessociety.org for consideration as a 2020 Maine Lakes Hero! Visit mainelakessociety.org FMI.



Read more about our heroes, including (L-R) Sue Neal, Mark Pokras, Maggie Shannon, and Matt Scott starting on page 4.

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Lakes Alive! Update

Outreach and education are core to the Maine Lakes mission. We believe one of the best ways to create the next generation of lake stewards who care for and act to protect our vulnerable lake resources is to involve young people in lake science. As mentioned in the fall newsletter, the Maine Lakes Education Committee, made up of Maine Lakes board members with deep environmental education experience, met over the fall and winter to assess the state of our existing Lakes Alive! curriculum, our scientific equipment, and our pontoon boat, the *Melinda Ann*. We came away with a couple of ideas, which, for better or worse, the COVID-19 crisis has helped cement into place.

For the summer of 2020, we will be putting the boat program on hiatus while we develop some other ideas for making our lake education programming accessible, equitable and truly statewide. The biggest issue we face with our boat program is the limited reach. The boat requires a hefty tow vehicle (which we don't own) and a sizeable boat ramp with a cement pad and a fairly large turning radius. It has been a challenge to find places where the boat can go, and frustrating for groups who want to host the *Melinda Ann* but don't have a place large enough for

the boat to get in the water. Luckily, we have some grant funding in place to help us figure out next steps, which might include:

- Exploring ways to use boats that are owned by others (and already in the water) for our educational programming.
- Developing land-based activities that pair with boat-based activities to extend our reach to communities within a broader lake watershed.
- Training teachers or other community members so they can lead lake curriculum activities with local groups.
- Expanding the curriculum with citizen science apps or other new technology.

This summer will bring us some much needed time for planning, for meeting with educators, and for putting the next steps in place. Check back in the fall for further updates!



President's Message

Greetings Lake Lovers,

As I write you my last "President's Message", I reflect on the last twelve years since I joined the Board of Maine Lakes. At the time it was called the Maine Congress of Lake Associations. The name may have changed but the mission has not. The years have flown by, as have dozens of trips on the *Melinda Ann*, years of relevant and motivating presentations at our Annual Maine Lakes Conference, the adoption and successful implementation of the LakeSmart program, fending off the LePage era with hours of testimony drafted to prevent rollbacks of long-standing laws that protect our lakes. How is it that when most director's terms are three years, I managed to stay for twelve? It's because of the people. Every person that I have worked with at Maine Lakes including staff, fellow directors, and our dedicated group of lake association members - you inspired me to learn, grow, teach, and share. I am extremely grateful for my time with Maine Lakes, the connections I have made across the state, and the work that we have accomplished as an organization in the dozen years I have been involved.

There is a lot to celebrate this year with the 50th anniversary of Maine Lakes! I encourage you to get involved, stay connected with our lake associations across the state, check out our exciting and informative Wednesday Webinar series (now through June 20th), and join us for our online Annual Meeting on June 20th at 9:00 a.m. Keep those torches burning bright at your home lake this season, and I'll see you out on the lake! Here's to another 50 years working together to protect Maine lakes!

Sincerely,



Jennifer Jespersen
President, Maine Lakes Society



Notes from the Executive Director

Maine Lakes and COVID-19

Hello all! I'm sure, like me, you are weary of the times. Bad news about the virus has surrounded us everywhere we turn the last two months, and all our lives have been turned upside down by closings, cancellations, and new rules about where we can go and what we can do. As a parent of a senior in high school, there is intense disappointment in our household every day. All the traditions we counted on to celebrate the end of four years of hard work have disappeared, and it can be difficult to see the bright side of these times, even as we know that our sacrifices are paying off in a flattened curve and a reduced virus spread in our state.

That is certainly the only bright side to the 14-day quarantine for out-of-staters. I know for many of you, the quarantine means you'll not likely make it to Maine this summer. That's a big loss for Maine's lakes, for Maine's economy and I'm sure for all of you personally.

While you're gone, and for our residents, and visitors who can manage the quarantine requirement, Maine Lakes will continue to work on behalf of clean lakes and healthy lake habitat. We've already rescheduled our conference speakers into a series of "Wednesday Webinars." You should have gotten word about these by email or snail mail, and we hope you've been able to join one or more. With just three completed as this newsletter goes to press, we've reached more than 400 unique webinar viewers, plus the recordings of the webinars on our website have been viewed more than 200 times so far. We will continue to adapt our efforts, using virtual gatherings, setting up remote learning opportunities, and supporting our lake associations as they do the same. We'll adapt and learn new ways of doing things. And we look forward to seeing you in person when the worst of this has passed.

Stay safe out there and keep in touch!



Susan Gallo
Executive Director, Maine Lakes Society



Meet Our Lake Heroes (cont'd from p. 1)

Sue Neal (Winthrop): Sue joined the Annabessacook



Lake Improvement Association's board in 1968, and has worked tirelessly over the last 52 years for the health of the lake. She stepped down after 15 years as president in 2019 though thankfully remains on the board. She saw the lake through its time

as a Superfund site, the site of an oil spill, and now a site with a variable water-milfoil infestation. Sue is active meeting with town officials, state agencies, and local non-profits to work on on-going lake issues. Thank you, Sue, for more than 50 years of work to protect Annabessacook!

Sandy and Wynn Muller (Wilton): Sandy and



Wynn are a dynamic duo in their ongoing work to support the health of Maine's lakes. Through the decades, they have devoted their talents, time, and appreciation of science to building community awareness (and taking action!) to

protect Maine lakes. Their list of accomplishments is long but includes helping develop education programs in local schools, leading the local Courtesy Boat Inspection program, supporting LakeSmart evaluations, monitoring water quality as certified Lake Stewards, and leading the Friends of Wilson Lake as well as committees of the Maine Lakes board. Their leadership, encouragement of others, and emphasis on learning more and doing better make them models of commitment for protecting and preserving Maine's lakes for the future. They are pictured here in the fall of 2019 with their People's Choice Finalist award from the Natural Resources Council of Maine. Thanks, Wynn and Sandy, for all you do!



Midcoast Conservancy (Edgecomb): Midcoast Conservancy is an organization that cares for the waters in the midcoast region in so many ways! They have restored fish passage routes through projects to remove and redesign dams. They monitor water quality, train and manage Invasive Plant Patrol volunteers and Courtesy Boat Inspectors in their region. Their Youth Conservation Corps work tirelessly on anti-erosion projects on Damariscotta Lake. We love working with Midcoast Conservancy as a regional hub for the LakeSmart program and thank their amazing staff for their hard work to keep Midcoast Maine's lakes clean and healthy!

Maggie Shannon (Belgrade Lakes): Maggie needs no introduction! She has been the heart and soul of Maine Lakes Society for more than 16 years. Her passion and dedication for lake conservation helped grow Maine Lakes from its roots as Maine Congress of Lake Associations, and was instrumental in the growth of LakeSmart as its flagship program. While officially retired from the organization, we know Maggie's passion for clean lakes will remain as she transitions to other projects and adventures in the years ahead. We hope she is able to relax and enjoy all that lakes have to offer. We are deeply grateful for all the work she has done. Watch for an official gathering in the coming year where we will formally celebrate all that Maggie has done for Maine's lakes. We hope you can join us!





Lakes Environmental Association

(Bridgton): We love working with our colleagues at LEA, which is also celebrating their 50th anniversary in 2020. LEA staff work year round testing water, visiting schools, and taking kids of all ages out on their preserves and trails. They meet with landowners to help them with sustainable management, test water quality on more than 40 lakes in the region, and run the Maine Lakes Science Center, a cutting-edge research and water testing lab. They also manage the Courtesy Boat Inspection program and lead the charge on efforts to fight invasive aquatic invasions. LEA is also a regional hub for the LakeSmart program and supports the work of Maine Lakes Society in many other ways.

East Pond Association (Smithfield):

For more than 20 years, East Pond Association has worked with many partners to find the causes and work on a remedy for the almost annual intense algae blooms on the pond. With the assistance of Colby and many local nonprofit partners, the Association identified an alum treatment, where aluminum compounds chemically bind the phosphorus in the water column, as the best strategy to improve water quality. The Association overcame the \$1+ million price tag with a massive fund-raising campaign that tapped into foundations, grants and individual gifts. The hard work has paid off as water quality has dramatically increased since the 2018 treatment. Excellent work by an organized and dedicated association!



The alum treatment in action on East Pond in the summer of 2018.

Matt Scott (Belgrade): Matt is considered the grandfather of lake protection in Maine, and has really been a lake hero for more than five decades. He is a walking encyclopedia about Maine's waters, and can recall the status of the fisheries, the history of water quality, and the ongoing issues at almost any lake he's ever visited. Matt first worked in fisheries for DIFW in the early '60s, then moved to the fledgling DEP as the first biologist in an agency of primarily engineers. In 1971, Matt formed the Maine Volunteer Lakes Monitoring Program (now Lake Stewards of Maine) and under his leadership, DEP devel-



oped a biological monitoring program that remains among the best in the country. Matt retired in 1988 but has remained active in many lake conservation organizations. Thank you, Matt, for serving on the Maine Lakes board and for all you've done to champion Maine's clean lakes!

Ted Koffman (Bar

Harbor): Ted's conservation career began at the College of the Atlantic, where he worked for 25 years, and where he helped establish "Eco-Eco" (short for ecology and economics) to engage business, environ-



mental, academic, and civic leaders in discussions focused on the environment and economy. Ted moved on to the State Legislature in 2000, where he served for eight years advocating for bills addressing invasive aquatic plants, climate change, habitat for wading birds and waterfowl, and bills to protect public and private drinking water. Following his legislative service, Ted joined Maine Audubon for five years as Executive Director where he provided leadership for Maine Audubon's advocacy work to protect vernal pools and wetlands, and to reduce the threat of lead poisoning to Common Loons from fishing gear. Ted also helped spearhead new conservation initiatives such as the Brook Trout Pond Survey and Stream Smart. Thanks, Ted, for a long career of work to protect Maine's clean water and wildlife!

More Lake Heroes



Mark Pokras (Scarborough): Dr. Mark Pokras is not only a Lake Hero, but we can also call him a Loon Hero! He served as the Director of the Wildlife Clinic at Tufts University for many years until retiring in 2018. Mark has been researching mortality in Common

Loons since 1987, and is widely recognized for his work on lead poisoning in wildlife. His research has led to restrictions on fishing tackle in Maine and a number of other states. Mark is known as a spirited mentor and collaborator who's generous with his time and expertise. Now living in Maine, Mark still regularly consults on environmental health and policy issues. A lifelong teacher, Mark remains involved with education for veterinarians, wildlife rehabilitators, students, and the public. Thank you, Mark!

Kim & Dave Hallee (Waterville): Kim and Dave have worked tirelessly to spread the gospel of LakeSmart and buffers around the challenging McGrath Pond–Salmon Lake shoreland. They convincingly share their message with people who at first don't want to disturb their generations-old camp roads, manicured lawns and waterfronts. Kim and Dave's energy and enthusiasm for this venture is truly contagious, and they have a remarkable capacity to enlist the participation of skeptical lakeside homeowners. They provide an astounding wealth



of both scientific and practical knowledge about water quality and pollution, and have powered lake surveys, recognized responsible land use, and helped to bring available resources to bear on remediating troubling deficiencies. Our lakes would not be the same without their truly outstanding efforts.

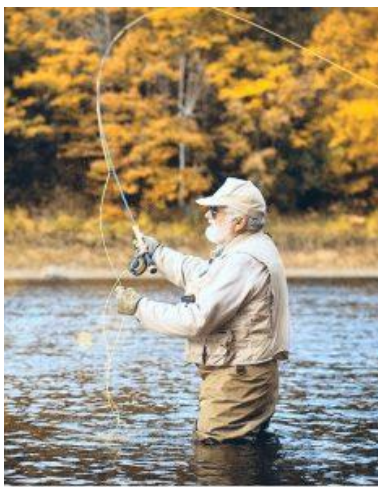
Avian Haven (Freedom): Avian Haven is a non-profit bird rehabilitation center in Freedom founded by Marc Payne and Diane Winn (pictured here). They and their dedicated staff treat more than 2,500 birds each year, including those that are orphaned, sick or injured with the goal, always, of releasing them back into the wild. We recognize them as Lake Heroes because of their dedication to rehabilitating Common Loons, a species notoriously difficult to treat. Over the last 20+ years, Avian Haven has treated several hundred Common Loons, many of whom were suffering from lead toxicosis after ingesting lead tackle. They have pioneered new treatments in loons, including lavage and chelation to reduce the after-effects of lead poisoning. We thank Marc, Diane, and their staff, for their dedication to rehabilitating and releasing Common Loons in our state!



Lenny Reich

(Belgrade): Currently Vice President, of the McGrath Pond – Salmon Lake Association (MPSLA), Lenny is a prime mover in the evolution of the association. His ongoing contributions over three decades have brought together the interests, fears and aspirations of a diverse group of people – many with conflicting perspectives. Lenny's involvement with the day-to-day affairs of the association has taken many forms as the membership, priorities and needs of the association has changed. Though he could easily have rested on his laurels long ago, he remains active and rarely hesitates to support MPSLA work. Lenny is able to move state agencies, town governments, politicians, public utilities, and even recalcitrant locals in directions helpful to the cause of lake protection. He is proof that the adage *"If you want something done, ask a busy person to do it!"* still rings true.





Peter Kallin

(Rome): Peter has been described as a “walking encyclopedia” (or these days, a “human internet”), and we don’t think anyone who has met him would disagree. Peter’s knowledge is both wide and deep — ranging from legislative lake policy and politics (in Maine and across the

country), to all things lake science, to organizational and board development, to wildlife, natural history, and fishing as well as all things beer, stout or ale. Peter is generous with that knowledge, and is always available for a phone call (or in the old days, a meeting) with anyone wanting to know more. As a long-time board member and past president, his efforts and knowledge have shaped much of Maine Lakes past successes! Thanks, Peter, for sharing your expertise and enthusiasm for lake conservation!

Lake Stewards of Maine (Auburn): Lake Stewards of Maine (formerly the Volunteer Lake Monitoring Program) was founded in 1971 by a small group of

visionaries (including Matt Scott, p. 5) who recognized that keeping a watchful eye on the health of several thousand Maine lakes could only be accomplished through widespread citizen participation in the gathering and dissemination of credible lake data. Talented LSM staff have been training, managing, and supporting volunteers for nearly five decades. We feel lucky to work with them and are thankful for the work they and their corp of 1,300 volunteers have done over the past five decades to monitor Maine’s lake health.



2020 Conference & Annual Meeting

It was not a difficult decision to move our 50th annual Maine Lakes Conference to a virtual platform. After all, the safety of our members was our top concern, and it became clear quite awhile ago that convening a group of 150+ lake advocates in June was not going to be a safe option. Yes, of course we will miss the face-to-face connections we make each year. But the good news is that we have taken all our webinar speakers (and added in even more) and set them up in our Wednesday Webinar series. Check out the schedule at mainelakessociety.org.

You won’t want to miss Keynote Speaker **Hilary Snook**, Environmental Scientist at the USEPA’s Regional New England Laboratory in Chelmsford, MA. He will wrap up our webinar series immediately following our Annual Meeting on June 20th at 9:30 a.m. He’ll be presenting a talk entitled **Lake Citizen Science: Tools, Opportunities & Challenges**. Please join us! [Register here today!](#)



TOXIC ALGAE BLOOMS

Scott Williams, Lake Stewards of Maine

Don't Panic But Do Become Informed About This Threat

Last summer, more than one social media post went viral concerning toxic algae blooms, and the resulting death of domestic dogs that ingested water from ponds experiencing a bloom. Over a period of several weeks, LSM staff received dozens of concerned inquiries about this phenomenon from citizen lake stewards, scientists, lakeshore property owners, lake associations, and the media.

The public is justifiably concerned about this significant threat to the health of Maine's lakes and to the people who use them. But let's begin by putting this information in perspective: *The social media posts were largely about situations occurring in the southern U.S., where algal blooms (toxic and otherwise) are much more common than in Maine.* Other names that are sometimes used to describe this phenomenon include "bluegreen algae" or "cyanobacteria" blooms, and the events may also be referred to collectively as "harmful algal blooms" or "HABs".

Cyanobacteria are not new to Maine's lakes. They have existed for thousands of years, and they can be found in all our lakes, but generally at very low densities. However, warmer water temperatures, combined with higher concentrations of phosphorus may favor a proliferation of cyanobacteria in many lake ecosystems that have historically not been known to experience algal blooms.



Photo Credit MPBN

Maine Lakes Continue to be Clear and Healthy.

But Things are Changing. Historically, Maine lakes have been, and continue to be, less likely to experience a toxic algal bloom than lakes situated in more southerly areas for a number of reasons:

- 1) *Maine's climate is relatively cool.* For thousands of years, our lakes have been covered by ice and snow for half the year or more. The Cyanobacteria/ blue-green algae associated with HABs are more likely to reach bloom levels in warmer climates, where the lake water is warmer.
- 2) *Maine's "glacial till" soils are less fertile* (less phosphorus) than soils throughout much of the country, which means that the ingredients that are essential to algae growth are in naturally short supply – provided that soils are stable and erosion is minimal.
- 3) *Maine's population is relatively small.*

These three factors have had a strong positive bearing on the health of our clear, clean lakes.

But clear lakes bring millions of visitors to the state annually, and as a result, a growing number of lake shorelines and their upland watersheds have become moderately developed. Development in all forms results in the disturbance and erosion of soils, reduced natural vegetation, and an increase in stormwater runoff. *Studies conducted in Maine and the rest of the country have consistently shown that runoff from developed areas contains higher concentrations of phosphorus, compared to runoff from undeveloped areas.* An increase in phosphorus in lake water generally leads to an increase in the growth of algae, and under the right circumstances, may lead to the development of bloom conditions.

A warming climate will likely add to or worsen the effects of watershed development in at least two obvious ways.



Typical warning sign posted on a lake in bloom.

First, lake water will be, and has been in recent years, warmer overall. The shortening of the duration of ice cover from the onset in the fall to melting in the spring is a major factor in this change. *Warmer lake water, combined with a longer period of time for sunlight to penetrate into the lake water column, generally favors the growth of cyanobacteria/bluegreen algae.*



Planktonic algal blooms may or may not consist of cyanobacteria/bluegreen algae, but should be avoided and assumed to be potentially harmful. “Scum” consists of concentrated algal cells on the water surface or shoreline, and may be highly toxic. Keep pets and people away from any visible “scum” you see.

Secondly, extreme weather events that are associated with climate change, during which large volumes of precipitation often occur in a relatively short period of time can, and will very likely, result in substantially greater soil erosion from lake watersheds, and therefore, greater annual loading of phosphorus to lakes.

These climate change effects will likely offset the natural benefit to Maine’s lakes of our relatively low-nutrient soils, resulting in a “triple whammy” scenario that is likely to have a significant negative influence on our lakes over time.

Unanticipated Changes Are Occurring Now! All of this is more than just speculation. Unanticipated and unusual phenomena have been documented in a growing number of Maine’s lakes in recent years. They range from shorter periods of ice cover to the proliferation of some species of algae, including the colonial cyanobacteria, *Gloeotrichia*, which has increased dramatically in some Maine lakes (including some of the clearest and least developed), to “Metaphyton”, the collective term used to describe a number of species of filamentous algae that grows in shallow areas, and typically has the appearance of “green cotton candy-like clouds”. LSM and DEP staff have received hundreds (perhaps thou-

sands) of concerned inquiries from lake users in recent years about what appears to be a significant increases of this algae. Climate change very likely plays a role in both cases. *Of greater concern, however, is the increase in the occurrence of severe planktonic cyanobacteria/bluegreen algae blooms in lakes with no historic occurrences. These have, for the most part, been “whole lake” events, and they have included bodies of water that have not been known to experience lakewide blooms in the past.*

When is it Not Safe to Go in the Water? Although the overall risk of encountering unsafe conditions for you or your dog in a Maine lake is low, you should be aware of the potential, especially if you are not familiar with the body of water. Puddles and small pools can warm very quickly, and under the right circumstances, could become toxic. Avoid allowing your pet to drink the water from such unknown sources. *Short of taking a water sample for analysis, the following are two relatively simple ways to judge whether or not lake water may contain unsafe levels of algal toxins:*

- 1) If you are a Certified LSM Lake Monitor, your Secchi disk is a reliable tool that can be used to quickly assess conditions in the lake. If the Secchi reading is greater than 2.0 meters (approximately 6’) depth, it is unlikely that any toxins in the water that may be associated with cyanobacteria exceed the health risk threshold.
- 2) Another simple option is to wade into the water in a relatively shallow area until you are up to your neck, and look down. If you can clearly see your toes the water is probably free of algal toxins. This method should not be used by small children, because someone who is only 4 feet in height might still be able to see their feet during severe bloom conditions.

In either case, if the water is greenish, and there is a buildup of scum on the surface or near the shore, it is best to avoid contact with the water altogether. And regardless of water clarity, remember that it is never safe to drink untreated lake water. Algal toxins are just one of many potential contaminants that could make you ill. Fortunately, very few of Maine’s thousands of lakes and ponds have experienced a severe algal bloom. Nonetheless, increasing development, combined with the influences of a warming climate, increase the risk factors for a bloom to occur. When in doubt, it is generally best to err on the side of caution. If your lake is not already being routinely monitored by a certified LSM Lake Monitor, please email stewards@lakestewardsme.org.

The Council of Lake Associations: Directors and Officers Insurance

Wynn Muller, Treasurer of Maine Lakes and Friends of Wilson Lake (FOWL)

I am often asked what is Directors and Officers Insurance and does a small lake association really need to have such coverage. My reply is that *no one* should be an officer or director of any group that does not have this coverage. Yes, it is commonly concerned with human resources issues and one might think that if they have no paid staff in their organization, there is little likelihood of having a need for this coverage.

While there is merit to this line of thinking, the risk of legal action against any group is too great to not have this coverage to protect against the high cost of legal expense to defend the members. D&O Insurance protects against losses/claims that may arise from alleged errors in judgment, breaches of duty, or wrongful acts in the course or scope of regular duties. For example, most of us have someone taking Secchi disk readings on our lake. God forbid, an accident occurs and this monitor is injured or killed. The family might be inclined to take action against the organization and since most lake associations have few assets, they might also name the entire body of officers and board in the legal action. Most likely, they would not have a valid claim against those officers and directors, but the cost of the legal defense could be drastic. That is one reason for having this coverage in place.

Take a look at some examples. We recently received a grant to do some work on the lake. While we did try to demonstrate that the work was done, what if the grantor was not satisfied and filed suit against me, the Treasurer? It would certainly be nice to know that my organization's D&O coverage would cover my legal expense while this was resolved.

FOWL employs Courtesy Boat Inspectors each summer, and one year we had to terminate one for failing to in-

spect boats. Our D&O would help the board should the young employee or their parent feel wronged in any way.

Common Risks include HR issues, reporting errors, inaccurate or inadequate disclosure, failure to comply with regulations or laws and decisions exceeding the authority granted to a company officer.

Common Exclusions include fraud, intentional non-compliant acts, illegal remuneration or personal profit, property damage and bodily harm, legal action already taken when the policy begins, and claims covered by other insurance

Other Examples:

Discrimination: An employee is fired for poor work performance and brings a discrimination suit against their employer. The claim costs more than \$80,000, including more than \$20,000 in defense costs.

Retaliation: A former employee reports illegal transactions involving retirement funds, and she is terminated by her employer. She files suit alleging retaliation and wrongful termination. The total loss exceeds \$100,000.

Governmental Agencies: An organization receives federal grant money and misuses leftover funds. The US Department of Justice alleges failure to revert unused money. Total losses of more than \$60,000, including \$21,000 for defense costs.

Volunteers : A volunteer claims she was discriminated against and denied a full-time paid position. She files a lawsuit. Outstanding loss of more than \$65,000.

Members: An organization began proceedings to remove a member. This member then sues the organization in order to have the proceedings halted. While there is no monetary settlement, the defense costs are \$15,000.

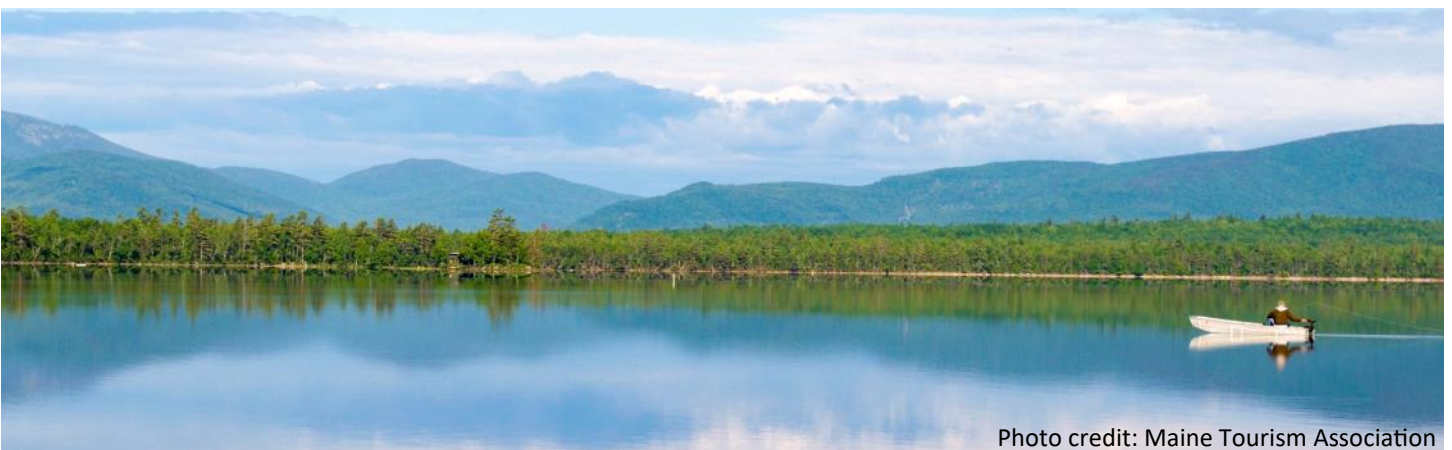


Photo credit: Maine Tourism Association

Meet The Staff: Brooke Hafford MacDonald, LakeSmart Manager

Brooke joined Maine Lakes last December, and has been busy ever since managing our LakeSmart program, meeting volunteers and evaluators, and gearing up for a now very different LakeSmart season (see page 15). We asked her a few questions so you can get to know her before you meet her out in the field.

Is there an experience from your past that has made you more aware of your natural surroundings? As a child my family and I were outside all of the time. I grew up in Allagash, Maine, which is a place where outdoor activities are just a part of daily life. One of my earliest, most fondest memories is with my maternal grandmother, who loved feeding the backyard songbirds, as she taught me the “sweet-weather” song of the black-capped chickadee (you may know it as “hey sweetie”). Everyone in my family loved nature and treated the environment with a great deal of respect. Because of them, I have been in tune with my natural surroundings for as long as I can remember.

What’s the single most important thing we can do to protect Maine lakes? Connect with others. As we say in our LakeSmart program, “if each homeowner does a little, the sum of many small actions adds up to a lot of lake protection.” We might not be able to solve lake issues all on our own, but if we engage with our neighbors and communities we can achieve a great deal.

Why should younger people be involved in lake and pond conservation? In his 2012 essay for *The Guardian*, titled *If Children Lose Contact With Nature They Won’t Fight For It*, George Monbiot writes: “Most of those I know who fight for nature are people who spent their childhoods immersed in it. Without a feel for the texture and function of the natural world, without an intensity of engagement almost impossible in the absence of early experience, people will not devote their lives to its protec-

tion.” Studies have shown that children who participate in environmental education will have greater awareness of environmental issues as adults. Other research has found that it is harder to introduce environmental values (i.e. caring for the environment) in adults than it is in children. Exposing young people to our lakes and ponds may certainly increase the likelihood that they will continue to care – and act – when they are adults.

If you could be any animal that lives on, by, or near a lake what would you be and why? While it would be wonderful to possess the grace of a river otter, the beauty of a wood duck drake, or the relaxed-pace life of a snapping turtle, I have to say that I would still choose to be a human. Although we have caused a lot of ecological harm, humans are really the only animals with the capacity to develop sustainable solutions for our greatest conservation problems. In other words, we can clean up our messes!

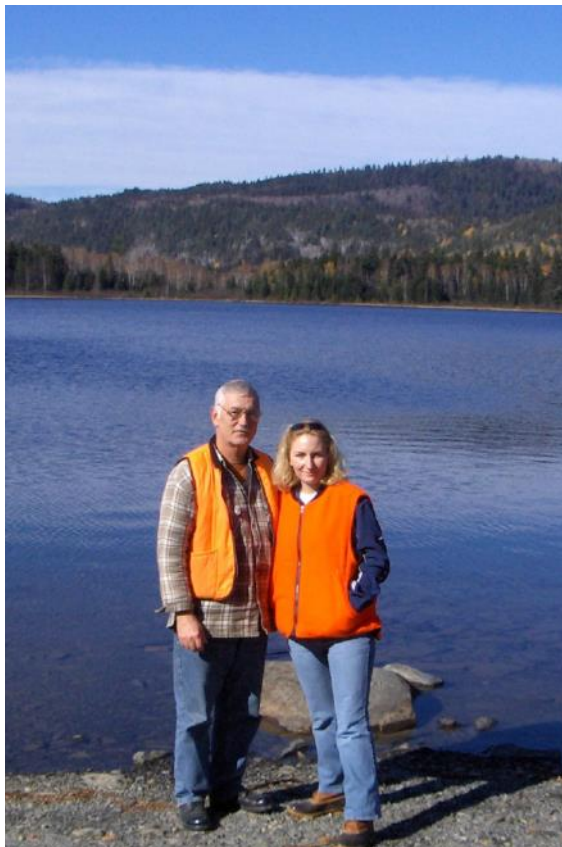
What’s your favorite Maine lake and why? Deboullie Pond in the North Maine Woods. The protected Deboullie Lands are perfectly quiet and peaceful, and the ponds – Deboullie, Togue, Gardner, Perch, and others – are clear and pristine. Even for those of us already living in remote

parts of northern Maine this was an area that felt like true wilderness. I vividly remember the day my father taught me how to use an outboard motor, and we spent the day motoring around the lake and stopping to fish. After having no luck, we had to resort to warming canned beans and Spam on the camp stove. I just have such wonderful memories there.

What’s your favorite time of year to be on the lake? Summer. I am not a fan of high temperatures (I like for it to be between 60 and 70 degrees), and nothing beats the heat like a nice dip in a cold, clear lake.

If you could visit any lake in the world, which one would it be? One of my goals within the next couple of years is to visit more U.S. National Parks. Crater Lake in Oregon and Glacier (home of stunning Lake McDonald) in Montana are at the top of my list.

You can reach Brooke at bhmacdonald@mainelakesociety.org.



Brooke and her dad at Togue Pond in the North Maine Woods.

Changing Weather, Changing Standards: The Future of LakeSmart

By Brooke Hafford MacDonald

Introduction If you are reading this newsletter, you already know that the overarching goal of our LakeSmart program is to protect Maine's lakes. The primary objectives are to raise awareness about non-point source (NPS) pollution, and encourage lakefront property owners to reduce erosion and runoff. At its heart, LakeSmart is an education and outreach program that requires participants to be engaged in the evaluation process. Without our enthusiastic coordinators, evaluators, and participants, the program would simply not exist.

LakeSmart standards were implemented in 2003 by the Department of Environmental Protection, 10 years before the program was transferred to the Maine Lakes Society. LakeSmart has since been a great success, but increased pressure on lakes from intensifying storms, increased summer temperatures, and changes in winter ice cover has prompted us to reevaluate our program standards, specifically those defining shoreline buffers. LakeSmart standards must be high enough that they make a difference for water quality - now and in the coming decades - but also achievable for homeowners to reasonably reach. How can we adjust LakeSmart standards to be both more protective of water quality yet still be realistic for motivated property owners? Can we update award standards without creating barriers that are simply too difficult for homeowners to overcome?

Social Science Of course, finding the answers to these questions will not be easy. First, the terms "climate change", "global warming", even "changing weather patterns" can be problematic all on their own. Even for people who accept climate change as an issue, the problems can be too overwhelming, and the solutions too inconvenient. As a whole, it's all too uncertain.

Evolutionary psychologist Mark van Vugt (2014) argues that our "Stone Age Biases" are partly to blame for the way we process and react to these kinds of complex environmental issues. Humans, he says, have evolved to value our own self-interests over the common good, tend to ignore problems that we cannot see or feel, and prefer immediate over delayed rewards. It's kind of like saying, whether consciously or subconsciously: "I'm less concerned about things that don't affect me personally, especially if it's happening far away from my home. And I can't waste time worrying about things that might happen many years down the road - I've just got to make it

through today." Sound familiar?

In fact, a recent study titled *Climate Change in the American Mind* conducted by Yale University between 2008 and 2019, showed that most Mainers accept that climate change is happening (Marlon et al., 2020). However, they also feel it is harming other people and won't harm them personally.

Interventions aimed at eradicating people's evolved biases aren't likely to be effective. Instead, such biases can be harnessed and redirected to promote sustainable behaviors (Schultz & Zelezny, 2003). For example, it is in our best self-interest to protect our relatives, especially our children (Hamilton, 1964). Framing messages about protecting resources for the benefit of our children, therefore, appeals to our own egoistic biases and can have important implications for environmental conservation. But what about other studies that have found that certain demographics respond better to messages that focus on reviving the past rather than protecting the future (Baldwin and Lammers, 2013)? It really depends on the audience - once size does not fit all! Thankfully, social science research has given us many examples of how to appeal to human biases in order to achieve our desired outcomes.

LakeSmart, a community-based social marketing program (a concept pioneered by MacKenzie-Mohr, 2011), has been implementing leading-edge social science all along. Humans have evolved to value trust and a sense of belonging (van Vugt, 2014) and social scientists have long recognized that humans tend to copy what others are doing (Asch, 1956). While participating in LakeSmart, homeowners learn from trusted friends and neighbors within their lake associations about ways their property is or is not protecting water quality and wildlife habitat. If a property meets our standards, homeowners are rewarded with award signs to be posted on the shore and driveway head. Having the same, visible sign as your friends and neighbors reinforces the feeling of belonging in the community while also helping to spread the word about the program. I've already received several emails that ask "How can I get the same LakeSmart sign that my neighbors have?"

As LakeSmart Program Manager I will always be reviewing and researching ways to integrate the best social science practices for the benefit of our program, now and into the future.

Biophysical Science Climate change is affecting Maine's lakes, ponds, and watersheds by altering the timing and magnitude of precipitation, length of growing season, and spring runoff (Hart et al., 2009). As a result, flooding and erosion damage may become more common, and warming water can increase the proliferation of harmful algal blooms (see page 8) and invasive species such as milfoil. Freshwater supplies will become less reliable due to altered hydrology (Hart et al., 2009). Since water is a central organizer of ecosystems (Sedell et al. 2000), changes in the hydrologic system and associated disturbances may have significant impacts on aquatic habitats and species -including people. In addition, water quality and soil resources will be affected (Furniss et al., 2010). We are already seeing a shift in the timing of ice-out on several lakes in Maine.

In the fall of 2019 the staff at the Maine Lakes Society began a scientific literature review to learn how our current standards may hold up in light of climate change. We searched for articles and publications relating to climate impacts on NPS pollution, prevention measures, and Best Management Practices. In addition, we reached out to many experts on NPS pollution and lake health, including researchers in academia, our peer lake conservation organizations, and state government to share their ideas and opinions. We believe that collecting this new information will help to inform how we upgrade our standards.

Conclusion In response to climate-related changes, we often hear experts talk about the importance of implementing “mitigation strategies” and “adaptation initiatives” (Fernandez, 2015). LakeSmart already offers many mitigation strategies for homeowners (e.g. ways to reduce runoff), and I think we can do even more. For example, encouraging lakefront property owners to enhance their shoreline buffers in light of more frequent and intense storms is an adaptation strategy – we can't change storm strength but we can change how we deal with those storms.

Tell me if you have heard this one before: “Well, I don't *really* know if my buffer needs to be wider, so I guess I'll just leave it the way it is.” I once heard someone say that uncertainty is a friend of science but an

enemy of action. Science projections are not perfect, especially when it comes to the complex subjects of climate, ecology, and human behavior. Therefore, it can feel much safer to postpone any action until we wait for more complete information. But even though science does not always provide absolute certainty, we act without complete information all the time. We all have insurance – for our car, our home, our health – without really knowing if we'll need it. Think of LakeSmart as insurance for our lakes!

Even though I have just written an entire article discussing the importance of using science-based evidence to enhance our program, I will never lose sight of why we are all here in the first place. Lakes inspire both intellectual and emotional awe. The *love* of lakes, and the *joy* people find in them, will forever remain a priority for communicating LakeSmart. By merging social and ecosystem sciences, and by bringing individuals together to work towards a common goal, I believe that LakeSmart can help to increase the adaptive capacity of Maine's socio-ecological communities – one lake at a time - as we move into the future. I look forward to sharing study results and ideas with you over the summer as we develop “LakeSmart 2.0”, and I thank you for your support.

Here's to an exciting year of building LakeSmart's solid foundation in 2020.

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*Erosion in an Oxford County lake.
Courtesy of Lewiston Sun Journal (2017).*

LIVING LAKES:



SNAPPING TURTLES

BY SUSAN GALLO

To many, massive snapping turtles lurking in the depths are the stuff of nightmares. Fears they will snap off a finger, a toe, a nose if we unexpectedly get too close seem legitimate but in fact are totally unfounded. As are rumors that a big snapper can break a broomstick handle in two. They'll definitely defend themselves and snap (hence their name), especially if prodded or poked. They are especially "snappy" on land, partly because their plastron (bottom shell) is quite small, leaving them especially vulnerable to predators when they are out of the water. As long as you keep your fingers to yourself, the snapping turtle (*Chelydra serpentina*) deserves a second chance. There are many reasons to appreciate this gentle, ancient giant.

The snapping turtle family has been lurking in wetlands, lakes, and ponds throughout North America almost unchanged for nearly 90 million years. That means ancestors looking very much like our modern day snapper were here when dinosaurs roamed North America. They survived massive extinction events, and lengthy ice ages. Part of their long survival may be their ability to hibernate for five or six months a year in the muddy shallows where oxygen levels are extremely low. Snapping turtles are the ultimate survivors, and knowing more about them might bring you around to, if not loving them, than at least appreciating their time here on earth with us.

Snappers emerge from their long winter nap to spend much of their summer in mud-bottomed, weed-choked waterbodies and wetlands. They are voracious feeders whose flexible diet lets them take advantage of whatever food items are available, including carrion, crayfish, clams, leeches, aquatic invertebrates, fish, amphibians, other turtles, small mammals, snakes, and all manner of aquatic plants, which may make up more than half their

diet. They will take ducklings and small waterbirds, but also geese and heron. The stories say they grab a leg and drag these large birds underwater until they drown. Yikes!

Snappers are long-lived (30-40 years in the wild, maybe more) and don't reach sexual maturity until age five. Female snappers disperse upstream from shallow lakes, ponds and marshes from mid-May to early June, looking for well-drained, exposed sandy soil in which to dig a depression and lay their 20-30 white, leathery eggs. They may go back to the same nest site year after year, and may travel up to several miles from their home water body, an impressive feat for a lumbering, low reptile covering uneven ground.

If nests escape detection by predators, hatchlings not much bigger than a quarter emerge after about three months and dig themselves out. They move overland in



Young snappers like this one usually emerge from nests in Maine in the fall and head to nearby streams or ponds.

search of a small stream where they can spend their early years, passing a gauntlet of predators, including chipmunks, skunks, fox, snakes, frogs, shrews, and crows, as well as human hazards like roads and speeding cars. Survival rates are estimated to be less than one percent, meaning snapper populations are likely to shrink with even minimal harvesting of adults.

Luckily, the commercial harvest of snappers has dropped dramatically throughout the eastern states. Partly due to dropping popularity of the most famed turtle dish – turtle soup. That's a good thing, as sustainable harvests of this species aren't commercially viable. Maine allows the non-commercial take of two snappers per person. Another good thing: as long-lived animals lurking in the muck at

Photo Credit: Sharon Butts (top left), USFWS Midwest Office (above); Flickr "Connecticut Birder" (p. 15).

the bottom of lakes, ponds, and wetlands, snappers can bioaccumulate toxins from their prey over time. Because of their longevity and tendency to burrow and submerge in contaminated sediment, the risk of toxins (such as PCBs and mercury) exceeding safe eating levels has been documented, and needs additional study.

Hopefully the next time you see a snapper in your lake or pond, you'll give him some space, marvel at his staying power, and leave him out of your cooking pot. We'll have snappers lurking in the depths for a long, long time to come.

Should I Help A Snapper Off The Road?



Snappers face road hazards every spring, and there's no harm in helping them make their way across a busy road, as long as it's safe to stop and assist. Large snappers can be handled with both hands by the sides and rear of their shell. Carry the snapper low to the ground (so it won't be harmed if it gets away) and make sure you carry it in the direction it was headed. Putting it back where it came from will only result in another road crossing attempt. Always wash your hands after handling, and congratulate yourself on helping an ancient beast cross the road.

LakeSmart 2020: Flexibility and Creativity in the age of COVID-19

LakeSmart will look a little different in 2020 than in years past. Maine's Stay Safer at Home order will last until at least May 31, so we are unable to complete any on-site evaluations until that has been lifted. We have cancelled our in-person workshops this year, and several established programs will be greatly reduced. Even when restrictions are lifted, some property owners might not want visitors, and some evaluators may not want to visit properties. So much will depend on existing government restrictions, CDC guidelines, and everyone's comfort level.

All that said, I still firmly believe that with a little creativity and flexibility we can make a lot of progress with LakeSmart this year. Here are just a few things we are working on:

LakeSmart 2.0: Pressure on lakes from intensifying storms, increased summer temperatures, and changes in winter ice cover has prompted us to reevaluate our program standards. How can we adjust LakeSmart standards to be both more protective of water quality yet still be realistic for motivated property owners? Can we update award standards without creating barriers that are simply too difficult for homeowners to overcome? Maine Lakes

is currently reviewing our property evaluation standards, based on an extensive literature review and interviews with experts in the field. This summer we'll look to draft changes that we hope will be implemented in 2021.

LakeSmart: Where are they now? What ever happened to property owners who received Awards or Commendations in years past? This is a great time to follow up with previous participants and check in on the status of their properties. We'll be building a database so we can track down past awardees and commendations, see where they are and what they need to get to (or stay at) LakeSmart standards.

LakeSmart Social Media : We are currently developing a series of LakeSmart webinars and social media posts to help spread our message: BMP demonstrations, LakeSmart tips, native plants information, LoonSmart, and much more! Check our website for updates throughout the summer!

LakeSmart Start: LakeSmart Start is a way for us to provide virtual support to homeowners so they can prepare their home for a formal, on-site property evaluation in future – thus, giving them a head start on receiving an Award! Look for LakeSmart Start information on our website soon.

If you have questions about these initiatives or would like more information, [please contact Brooke today!](#)



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Join or Renew Today!

Maine Lakes is at its heart a membership organization, and we rely on members like you to support our work to keep Maine's lakes clean and healthy. Members receive periodic email updates about events and opportunities, our biannual newsletters, and a registration discount for our Annual Maine Lakes Conference. Save the date of June 19, 2021 for our 51st Annual Conference in Belfast. [Renew today!](#)

[Donate securely online, any time.](#)

Members, Come to our Annual Meeting!

Please join us on June 20th via Zoom for our annual meeting where members will elect new board members, hear updates on programs and activities., and vote on updated bylaws. After the annual meeting, join us for our Keynote Speaker **Hilary Snook** for his presentation entitled **Lake Citizen Science: Tools, Opportunities & Challenges**. [Register here!](#)

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