



A SEMI-ANNUAL PUBLICATION OF NH LAKES—SPRING/SUMMER 2021

## Launching into 20 Years of Preventing the Spread of Invasive Species!

For many of us, 2021 is a year for celebrating many things. Summer 2021 marks the twentieth year of the Lake Host program and we hope you'll agree this is reason to celebrate! Over the past 19 summers, our Lake Hosts have conducted almost 1.3 million courtesy boat and trailer inspections and captured at least 1,635 invasive species specimens hitchhiking on boats about to be launched into or just taken out of our lakes. Without Lake Hosts standing guard, these aquatic hitchhikers could have caused serious and irreversible harm to our lakes.

Not only can infestations of invasive species disrupt the natural ecology of our lakes, they can also make wading, swimming, and boating, unpleasant, difficult, and dangerous. Invasive species infestations lower lakeside property values while costing the state and local communities millions of dollars annually in management costs and time. Unfortunately, once firmly established in a lake, invasive species are nearly impossible to get rid of.

Without Lake Hosts stationed at nearly 100 of busiest boat ramps in the state each summer since 2002, many more lakes in New Hampshire would be fouled by masses

of unwanted invasive species—plants like variable milfoil, Eurasian milfoil, and fanwort, and invasive animals like the Asian clam and Chinese mystery snail. Our partners at the New Hampshire Department of Environmental Services report that the rate of invasive plant spread in our lakes has decreased over the past two decades, attributing this good news, in large part, to the Lake Host program.

The thousands of individuals who have served as Lake Hosts over the years are truly heroes! If you have been part of our Lake Host Team—thank you—and please pat yourself on the back! If you know a Lake Host, or see a Lake Host this summer during your travels, please take a moment to thank them.

Not only are Lake Hosts heroes, all of the boaters who are now in the habit of always taking the time to clean, drain, and dry their boats, trailers, and gear, between waterbodies are heroes, too! If you are one of these boaters—thank you!

Last summer, our lakes—and our Lake Hosts—were busier than ever. As boaters sought to get out onto our lakes to have fun, relax, and get some fresh air, our Lake Hosts conducted a record-breaking 130,000 boat and trailer inspections—nearly 30,000 more than during the summer of 2019.

With a relatively early ice-out this spring, and with people more excited than ever to get outside, we're betting 2021 will be another record-year for boat traffic on New Hampshire's lakes. Knowing that it only takes one boat containing water with invasive animal larvae or a fragment of an invasive plant to cause an infestation in a lake, we can't wait to launch the twentieth year of the Lake Host program in May!



*Lake Hosts at Swains Lake.*

Working for clean and healthy lakes

*Lakeside*  
published semi-annually by

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# From the President...



"Conservation is not merely a thing to be enshrined in outdoor museums; it is a way of living on land." - Aldo Leopold

Aldo Leopold, who wrote *A Sand County Almanac* (1949), is credited with having coined the term 'land ethic.' What Leopold describes is a moral code of living needed by the connection of people with the land. Leopold made the case that conservation is an attitude toward, and relationship with, the land. I am fairly sure this was a broad definition of 'land.' As we know, land includes water and air—really, the earth as a planet. I wanted to take this opportunity to talk about our land and water ethic and our work with you to conserve our lakes.

In this issue of *Lakeside*, you will read about many actions lake conservationists, like you, are taking to keep our lakes clean and healthy. The title 'conservationist' sounds formal, doesn't it? Like someone needs to have an advanced degree or must do it every day for a living in order to earn that title. At NH LAKES, we believe that the true lake conservationists are you, and the people just like you, who want to do their part to protect our lakes.

The network of organizations throughout the state dedicated to lake conservation are important to lake health in New Hampshire. But, it is the people who interact with lakes daily whose actions really matter. You understand this cause-and-effect relationship and, for you, the idea of the connection between your actions and

the health of the lake is clear. Thankfully, more and more people are learning this essential truth and, every day, are moving to a more lake-friendly way of living to help care for our lakes.

I wanted to share with you the best way I have found to think and feel about lakes. For me, lakes are living and breathing organisms. Lakes have a lifetime with different life stages and the ebbs and flows of a life cycle. We may get to experience a lake during only a small portion of its life, but we still get to be part of that lake's life story.

One thing we have learned about conservation and the life and health of our lakes is that we can live near them and use them for our benefit and enjoyment without harming them, if we do so in a thoughtful way. Serving as a volunteer lake quality monitor, watching for and preventing the spread of invasive plants and animals, becoming LakeSmart, and engaging in public policy advocacy for lakes, are all things you can do as a 'lake conservationist' and which we can do together.

Thank you for understanding the importance of modeling the ways of lake-friendly living for others and doing your part to keep our lakes healthy.

On behalf of New Hampshire's lakes,

Tom O'Brien  
President

## Leave a Legacy

Make a gift to NH LAKES in your will to ensure the lakes we love stay clean and healthy. Simply share this sentence with your attorney or financial planner:

*I bequeath \$\_\_\_ or \_\_\_% of my estate to: New Hampshire Lakes Association, Inc., 17 Chenell Drive, Suite One, Concord, NH 03301.*

Our tax identification number is 22-2668396. If you have chosen to include NH LAKES in your estate plans, please let us know. Thank you!



**NH LAKES operations are funded in part by a grant from the New Hampshire Charitable Foundation.**

# Advocating for Lakes in Uncharted Waters

by Michelle Davis, Advocacy Program Coordinator, NH LAKES

During a typical legislative session, I would be bustling around the hallowed halls of the New Hampshire State Capitol and legislative office buildings, squeezing into packed committee rooms for legislative hearings and greeting legislators and staffers clad in business suits and snow boots. Instead, during the 2021 New Hampshire Legislative Session, I have been sitting in the shadow of the gold dome addressing talking heads on my computer screen from my home office, praying my dogs won't see a squirrel out the window and start barking while I'm delivering testimony. To say this has been an interesting introduction to public policy advocacy in New Hampshire would be an understatement.

Despite the unusual circumstances, the New Hampshire legislature has been very busy the past few months, with over 1,000 bills submitted for consideration. NH LAKES has been tracking and acting upon a number of bills by submitting written and verbal testimony and informing and mobilizing our supporters and partners.

The primary bill we are advocating for is House Bill 229 defining wake boats. It is important to define wake (ballast) boats in statute as a unique type of boat in order to manage their impacts on lake health. The bill was not voted on by the whole House of Representatives when it was in session April 7 through April 9, therefore, it didn't meet the House and Senate crossover deadline. This means that the bill won't become law, but can possibly be resubmitted next year. NH LAKES will continue to be involved in the growing statewide and national conversation about how wake boats may be operated without causing harm to waterbodies. When used in certain ways, wake (ballast) boats may pose threats to the health of New Hampshire's lakes in the form of shoreline erosion, disturbance to the lake bottom, and contributing to the spread of aquatic invasive species. NH LAKES is awaiting results of a wave action study that may help inform how far from shorelines and at what depth wake boats should be operated when engaged in certain

activities to minimize some of these impacts. When this peer-reviewed scientific study is available we will share the results and may consider further recommendations and legislative action.

During this session, NH LAKES is advocating on several other bills related to water quality including the evaluation of shoreland septic systems, development within the shoreland area, and wetlands protection. We are weighing in on other topics including the siting of landfills near lakes, requirements for seasonal floating platforms on our lakes, and conservation easement restrictions.

The advocacy page of the NH LAKES website is a good place to look for more details on our legislative priorities and explanations of bills we're tracking. And, the best way to stay informed year-round and to take action when needed, is to sign up for the NH LAKES Advocacy Alert at [nhlakes.org/e-news](http://nhlakes.org/e-news).

## In Memoriam



**Ted Hilton**

**Ted Hilton** passed away on February 2, 2021. Ted was a prominent fixture in the Lake Kanasatka community in Moultonborough. Apart from helping to found the Lake Kanasatka Watershed Association, he ran Deer Hill Camp on its shores for 50 years. Deer Hill was a place where young boys and girls from across the country were given the opportunity to explore the natural world, to gain a better understanding of themselves and of others, and to develop their independence and self-confidence.

**Bob Nugent** passed away on January 10, 2021. Bob had a very special impact on Sunset Lake in Hampstead and the Sunset Lake Association (SLA). He was a founding member of the SLA in 1984 and held positions either as a board member or delegate throughout the entire history of the organization. He was instrumental in establishing and implementing the association's water quality testing and invasive species prevention programs. Bob loved Sunset Lake and its wildlife and could often be seen paddling around the lake or out spotting loons.



**Bob Nugent**

# Where Will You Start?

Have you ever pulled up to a toll booth only to learn that the person ahead of you has already paid for you? What did you do, or would you do—say “thanks” and drive on, or pay it forward? If you are like most people, and you had the spare change, you would probably pay for the person behind you, continuing the chain of good deeds. Why?

Because doing good feels good and, more importantly, it inspires others to do the same.

During summer 2020, residents at Lake Kanasatka in Moultonborough witnessed the first-ever documented toxic cyanobacteria bloom in the lake. This was alarming and had residents scratching their heads—how could

this happen and what could they do about it? A handful of property owners took initiative and signed up for LakeSmart, a self-led lake-friendly living evaluation to get some guidance. What happened? They learned what steps they could take in their home, on their property, and along and on the lake to help keep the lake clean and healthy—and minimize their contribution to nutrient pollution which could be fueling cyanobacteria growth in the lake. And, they started a chain reaction—some of their friends and neighbors around the lake started taking lake-friendly actions too, helping to kick-start a community-wide, multi-organizational effort to protect the lake.

How inspiring is that? It’s just one story of many we could have shared with you. We invite you to join LakeSmart to help this chain reaction of good deeds spread all across New Hampshire. Over just the past two summers, hundreds of people, at lakes big and small, have initiated ripple effects of lake-friendly actions in their community. LakeSmart is like paying it forward at the toll booth, but with a much longer-lasting impact.

What would your lake community look like if every person paid it forward too? You may be the person who takes the first step. Where will you start? Visit [nhlakes.org/lakesmart](http://nhlakes.org/lakesmart).

## The Kellys at Lake Kanasatka Receive LakeSmart Award

by Rosemarie Rung, Lake Kanasatka Watershed Association

With the lake season not far away, it’s a good time to learn more about the LakeSmart program of NH LAKES. LakeSmart provides evaluation, education, and recognition of a property to promote lake-friendly practices. Sandra and Kevin Kelly of Lake Kanasatka in Moultonborough achieved LakeSmart certification for

their property last fall.

The Kellys began the process last October by completing an online self-assessment questionnaire and submitting photographs. One photo was of their driveway’s stone swale constructed by Kevin using stones found on their property. The swale diverts and infiltrates the runoff water before it reaches the lake. Preventing polluted water runoff is an important way to prevent phosphorus being washed into the lake, which can trigger algae and cyanobacteria blooms.

During the evaluation, NH LAKES made two recommendations: replace some of the existing lawn with wild native plant species and add stepping stones set in a bed of small crushed stones across the pathway leading to the beach. Both of these recommendations would help prevent runoff and erosion of the shoreline.

Sandra comments, “We recommend that all waterfront property owners apply for LakeSmart. Many property owners have told me they know they have runoff problems, but they either do not know how to correct them, or they cannot afford to correct them. Our improvements, based on the free LakeSmart booklet, cost us very little.”

Kevin adds, “We sought to be LakeSmart because we love Lake Kanasatka and want to do everything we can to protect its future. LakeSmart is free and non-regulatory. Their goal is to educate, and they do this in a very friendly, thorough, and professional way.”

Several other Lake Kanasatka homeowners are in the process of becoming LakeSmart certified as well. To learn more and to begin your own path to certification, go to [nhlakes.org/lakesmart](http://nhlakes.org/lakesmart).



Kevin and Sandra Kelly with their LakeSmart Award.

# LakeSmart Service Provider Partner Program Kicks Off!

“Over the years, most people I’ve met don’t really know how their actions affect the health of our lakes,” comments Andrea LaMoreaux, NH LAKES Vice President of Programs and Operations, reflecting on the past twenty years she’s spent working in lake conservation. “I’ve also learned that most people want to know what they can do to help keep the lake they love and enjoy, clean and healthy. That’s why I was so excited to bring the LakeSmart program, which has been so successful in Maine, to New Hampshire—to help property owners find out how to live in a lake-friendly way.”

Through the NH LAKES LakeSmart program, property owners receive tailored recommendations about adopting lake-friendly living practices in their home, on their property, and along and on the lake. “Often, we provide relatively simple, do-it-yourself recommendations to property owners,” Andrea explains. “But, sometimes the projects can be big and complicated, or property owners just don’t have the time or interest in doing it themselves. That’s why we’re launching the LakeSmart Service Provider Partner Program this year.”

NH LAKES is building a team of lake-friendly living service providers that property owners can easily access in their region to help them adopt lake-friendly living practices. So far, 12 businesses have joined the team, including Belknap Landscape Company, which helped NH LAKES design the partner program.

“When you live and work in the Lakes Region, you cannot help but appreciate the lakes that make our area special,” explains Hayden McLaughlin, owner of Belknap Landscape Company. “Whether we’re designing, building, or servicing a lakefront property, we’ve always tried our hardest to safeguard the lakes. Often that meant helping people understand why some practices are harmful and others are important. When I heard about LakeSmart, I was excited about the approach. It’s about education, actions, and doing the right thing to protect what makes our area great.”

LakeSmart Service Provider Partners pledge to do their work in a way that supports clean and healthy lakes and to help their clients live in a lake-friendly way. Depending on what services they provide, there are various trainings they must take to participate in LakeSmart. They also commit to helping NH LAKES, when called upon, to host workshops and other events to encourage lake-friendly living throughout the state.

We are pleased to welcome aboard our first team of LakeSmart Service Provider Partners and we encourage you to reach out to them with your lake-friendly living needs! Find out more at [nhlakes.org/lakesmart](http://nhlakes.org/lakesmart).

## NH LAKES LakeSmart Service Provider Partners (as of Spring 2021)

### Architects & General Contractors & Homebuilders

- Cormack Construction Management (Great North Woods/White Mountains Regions)  
[cormackconstructionmanagement.com](http://cormackconstructionmanagement.com), 603.367.8272

### Drinking Water & Wastewater Service Providers

- Advanced OnSite Solutions (Lakes, Dartmouth-Lake Sunapee, & Monadnock Regions)  
[aosne.com](http://aosne.com), 603.783.8042

- Russell Inspection Services (Lakes Region)  
[nhsepticinspection.com](http://nhsepticinspection.com), 603.740.4062

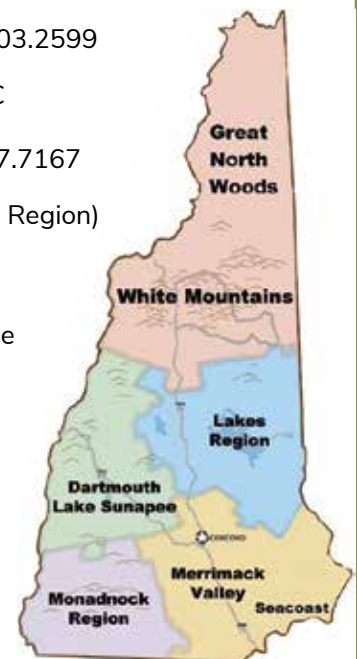
- Septic Check Inspections (Monadnock & Merrimack Valley/Seacoast Regions)  
[septicchecknh.com](http://septicchecknh.com), 603.893.2011

### Landscape Service Providers

- Belknap Landscape Company (Lakes Region)  
[belknaplandscape.com](http://belknaplandscape.com), 603.528.2798
- Eco-Smart Landscaping (Monadnock Region)  
[eco-smartlandscaping.com](http://eco-smartlandscaping.com), 603.493.0231
- Piscataqua Landscaping & Tree Service (Lakes Region)  
[piscataqualandscaping.com](http://piscataqualandscaping.com), 207.439.2241
- Stephens Landscaping Professionals (Lakes Region)  
[stephenslandscaping.com](http://stephenslandscaping.com), 603.707.0630

### Realtors & Property Rental Agencies

- Bean Group (Lakes Region)  
[waterfrontagent.net](http://waterfrontagent.net), 603.303.2599
- Lakefront Living Realty, LLC (Lakes Region)  
[lakefrontliving.com](http://lakefrontliving.com), 508.377.7167
- Maxfield Real Estate (Lakes Region)  
[maxfieldrealestate.com](http://maxfieldrealestate.com), 603.387.6000
- RE/MAX Home Sweet Home (Lakes & Merrimack Valley/Seacoast Regions)  
[NHHomeSweetHome.com](http://NHHomeSweetHome.com), 603.765.5325



# Aquatic Invasive Animals—Which Will Survive and Thrive in New Hampshire?

by Amy P. Smagula, Limnologist, New Hampshire Department of Environmental Services

Here's the good news—over the past twenty years we have been successful in slowing the rate of aquatic invasive plant spread in New Hampshire, thanks to much effort by many people! But here's the bad news—doing so for invasive aquatic animals has proven to be, and will continue to be, much harder. Invasive animals like the zebra mussel, Chinese mystery snail, and the Asian clam are, unfortunately, much more savvy and adaptive than invasive plants like the milfoils, fanwort, and water chestnut. Slowing the spread of invasive animals in New Hampshire's waters is going to be a challenge over the next twenty years, and beyond.

## What is the risk?

In the late-1990s when zebra mussels (photo 1) first started spreading beyond the Great Lakes, many states conducted risk assessments to see if their waters would support populations of these invasive shell-building animals. In New Hampshire, we took water quality data from across our lakes and compared it with known environmental tolerance ranges of the zebra mussel. That analysis identified 28 waterbodies with suitable characteristics for zebra mussel growth—most of those were waterbodies located along the western border of New Hampshire where the calcium content in bedrock and soils (and, thus ultimately lake water) was sufficient to support zebra mussels. Based on this evaluation, it was concluded that most of New Hampshire's lakes did not support conditions that favored the zebra mussel. Other shell-building invasives were considered in the same light—if the adaptive zebra mussel was not going to survive well in New Hampshire's waters, maybe other similar shelled species would not either.

Does this mean New Hampshire's lakes are largely immune to shell-building invasive animals? Fast forward two

decades, and we still don't (yet) have zebra mussels documented in the state. We do, however, have the Chinese mystery snail (photo 2) and Asian clam (photo 3), both shell-building, calcium-dependent (among other parameters) aquatic invasive animals—and they are expanding their range in the state.

The Chinese mystery snail has been in New Hampshire since at least the mid-1980s when it was first documented in Lake Winnisquam. Today, it is found in dozens of waterbodies across the state. These large golf-ball sized snails can be found slowly traversing the bottoms of lakes, in nearshore areas. And, the Asian clam is currently documented in a number of southern lakes and in one river system. In some waterbodies, the clams cover much of the bottom substrates in shallow water (photo 4). The majority of the waters where the snail and clam are found are not known to be high in calcium, or within ideal tolerance ranges for either species. In fact, the Asian clam was originally thought to be intolerant to cold temperatures, yet it thrives even farther north of New Hampshire in the Saint Lawrence River.

Still, other aquatic invasive animals are out there that could pose a threat, like the spiny and fish hook water fleas as close as Lake Champlain in Vermont, only a couple hours ride away for a trailered boat. And, the ominous sounding snakehead fish has been in the news over the years as an invasive fish species in waters to our south. Beyond that, we must also consider what is next, with climate change making even colder northern waters potentially hospitable over time to warm-water invaders to our south.

As you can imagine, any invasive species that comes to dominate a system can have an impact on more desirable native species. Many of these invasive species can filter-feed large amounts of algae and bacteria out of the water column,



Photo 1 - Zebra Mussel



Photo 2 - Chinese mystery snail



**Photo 3 - Array of Asian Clam sizes.**

or feed on material necessary to other organisms, depriving other species of food sources. Rapid processing of food by invasives can result in quick cycling of nutrients in a waterbody, accelerating lake aging and harmful algal blooms.

### **Savvy and Adaptive**

With two aquatic invasive animal species already in New Hampshire, we can assume that more could join them and adapt to do well, even in conditions that are not highly suitable for them, in waterbodies throughout the state or even in parts of individual waterbodies. An example of a waterbody with a partial invasion is Lake George in New York. At the southern end of the lake where there are a number of docks installed on a poured concrete wall, enough calcium leaches from the concrete to create a micro-habitat suitable for zebra mussels, while the rest of the lake does not have conditions suitable to sustain their growth. It is not an all or nothing when it comes to invasive species—they can invade, even in partial measures.

Not only do we wonder and worry about if the species will get here from a boat or other means, we also wonder if there are microhabitats in our lakes that could create an opening for colonization of a new aquatic invasive animal. Invasive species are notoriously adaptive to a range of conditions, and they have characteristics like high reproduction rates, fast growth rates, and no or few natural predators to keep them in check, allowing them to quickly dominate a waterbody.

In ecology we talk about 'invasion risk,' which is the probability that a species will be introduced to a new environment and take hold. Factors could include the number in which the species is introduced, timing, and habitat conditions. For some species, like the Asian clam (which is a hermaphrodite) and the invasive water fleas (individuals can self-generate daughter cells to create a new generation), it could be a matter of just introducing a single adult to spark a new population. For other species, it could be that multiple adults of both sexes are introduced, or viable larvae are transported to and unknowingly discharged into a waterbody through a live well, bait bucket, or other water-holding device that was not completely drained of water from the last waterbody it was in.



**Photo 4 - High density Asian clam population.**  
(photo credit: E. Nelson)

### **What can be done?**

Once an invasive gains a foothold in a waterbody, particularly near docks and boat launches, it could spread to other waterbodies. Unfortunately, the prognosis for successful management of an invasive animal infestation is not great at this time. There are few reliable control mechanisms for aquatic invasive animals. Because many invasive animals produce microscopic larvae, simply removing or targeting adults will not manage larvae that are already in the water. Further, there are few examples of successful eradication of shelled invasive species without harming other organisms. Many of our lakes support a variety of native mussels, some of which are threatened or endangered, which can complicate management of an invasive if we cannot guarantee zero impact to the native species.

We need to work even harder with prevention efforts and continue to encourage boaters to arrive at waterbodies with their boats, trailers, and gear cleaned, drained, and dried. This helps to ensure that invasive species migrations between waterbodies are limited. At the same time, we need to work harder on our early detection efforts. While management of waterbody-wide infestations of animals is not feasible right now, finding new isolated infestations early is helpful in trying to contain the species, and alerting waterbody users about their presence can help to prevent further spread.

### **You can help!**

State biologists keep an eye out for potential species of concern while they are out and about, but the more eyes the better—this is how you can help! If you see something in the water that seems like it is growing quickly or looks new or different, don't hesitate to report it. If you can, take a photograph of it with scale (coin, ruler, pen) and email the photo to me at [Amy.P.Smagula@des.nh.gov](mailto:Amy.P.Smagula@des.nh.gov), or to Fish and Game at [Scott.Decker@wildlife.nh.gov](mailto:Scott.Decker@wildlife.nh.gov).

With your help, we will have a chance at slowing the spread of invasive animals in our lakes, like we have done together for invasive plants!

# Celebrating the Success of Our Partners!

We're celebrating the New Hampshire Lay Lakes Monitoring Program and the New Hampshire Department of Environmental Services' Volunteer Lake Assessment Program! Each of these amazing programs recently celebrated anniversaries and we had hoped to shine a spotlight on them at the 2020 Lakes Congress. But, as you all know, the world had other plans when it came to in-person gatherings. We want to take this opportunity to thank the hundreds of volunteers and the dedicated staff who help make these programs possible, protecting our lakes for years to come.

## A Legacy in the Making: 35+ Years of Volunteer Lake Monitoring

by Sara Steiner, Volunteer Lake Assessment Program Coordinator, New Hampshire Department of Environmental Services

The summer of 2020 marked 35 years of the New Hampshire Department of Environmental Services' (NHDES) Volunteer Lake Assessment Program (VLAP). Its inception in 1985 was an experiment in both citizen science and government relations. One can say today that the experiment was a huge success for the citizens, governments, and our lakes. Here's a quick journey through 35 years of VLAP successes and contributions to the State...

### The success is in the volunteer.

Volunteers were trained to follow uniform sampling techniques and the NHDES Limnology Center was born. Samples were analyzed for basic chemical and biologic parameters to assess lake health and data generated were incorporated into reports for lake associations. Volunteers were educated starting with basic lake ecology concepts, followed by one of the most challenging pieces, data interpretation. Volunteers rose to the challenge, took this knowledge, and began educating neighbors, lake associations, local governments, and even state government when it came to issues affecting lake water quality. They tackled issues of watershed management including shoreland protection, developing local land use ordinances, and polluted runoff water management. Trees and shrubs were planted along shorelines, beaches were perched, local ordinances were passed and enforced, watershed

management plans developed, and do-it-yourself runoff water management practices installed.

**The success is in the data.** In the early 2000s, the data quality assurance revolution arrived and measures to assess volunteers' accuracy and precision were established allowing data to be utilized in federal water quality assessments. Confidence in data quality soared and VLAP established analytical procedures to report on long-term water quality trends. Of the 180 lakes currently monitored through VLAP, approximately 160 have data sets of 10 years or more allowing NHDES to assess statewide lake trends and report those to the public.

The quantity and quality of VLAP data have been invaluable in community planning, maintaining state and federal funding, and in NHDES' mission to protect New Hampshire's lakes and ponds.

**The success is in 35+ years.** For volunteers and program staff past and present, VLAP's 35th Anniversary in 2020 marked a major milestone for volunteer monitoring. "When I look back on my years serving as the VLAP Coordinator, I can't help but smile," explains Andrea LaMoreaux, NH LAKES Vice President of Programs and Operations. "During those six years, I visited at least 150 lakes and

met more than 500 volunteers—many I can still picture in my head! I am grateful for all I learned about our lakes and the people who care for them. Today, it gives me great comfort knowing that so many amazing people throughout the state continue to keep an eye on the lake they love."

The state of New Hampshire owes a debt of gratitude to each and every citizen who has collected a lake water quality sample, transported samples to a laboratory, analyzed and reported VLAP data, participated in watershed management, and so much more. Thank you, and cheers to the next 35+ years!

To find out more about VLAP and to start a program or join a program in your community, visit [des.nh.gov/water/rivers-and-lakes/volunteer-assessment-programs](https://des.nh.gov/water/rivers-and-lakes/volunteer-assessment-programs).



VLAP sampling crew at Newfound Lake.



# Lakes Lay Monitoring Program Celebrates 40+ Years of Research!

by Bob Craycraft, Lakes Monitoring Program Coordinator, University of New Hampshire, Cooperative Extension

In 2019, the New Hampshire Lay Lakes Monitoring Program (LLMP) turned 40! The success of the LLMP is a testament to the vast number of volunteers who commit to sampling water quality on the lakes they live along. Volunteers not only serve as lake monitors but become empowered “experts” informing their neighbors and local public officials on the lake’s condition and best stewardship practices. Resulting actions have included landscape design improvements reducing polluted water runoff from shoreside homes, reductions in fertilizer applications, rerouting roads around critical drainage areas, and justifying funding to address septic system failures. Volunteers have contributed countless hours to lake monitoring, resulting in many success stories. Here are just a few...

**Achieving Phosphorus Reduction at Chocorua Lake in Tamworth:** A diagnostic study identified hotspots on the landscape that contributed to an atypically high quantity of the nutrient phosphorus in the land along the lake shoreline. LLMP volunteers, along with local, state, and federal officials (11 agencies in all!), worked together to fund and correct the problem areas which were contributing to plant and algae growth in the lake. Overall, this project resulted in a phosphorus reduction of approximately 90% to the impacted area!

**Enhancing Watershed Management Plans for Lake Winnepesaukee, Lake Wentworth, and Newfound Lake, as well as Many Other Lakes:** Water quality data collected by LLMP volunteers have been used to support and calibrate water quality modeling as part of watershed management plans around the state. Over the past five years, LLMP water quality monitoring efforts have supported plans that were awarded over \$600,000 in federal funding, with an additional local matching contribution of almost \$400,000.

**Assisting the UNH Center for Freshwater Biology (CFB) in Applied Lake Studies:** These projects have advanced our understanding of our New Hampshire lakes for the scientific and regulatory community. At the same time, these projects have provided residents valuable knowledge about local water quality. LLMP volunteers have been active in the collection of data that have increased our knowledge of seasonal and long-term water quality trends, fish condition, recreational impacts, and land use/water

quality relationships. Currently, many participants are sampling for cyanobacteria that have the potential to produce harmful toxins when they bloom. The US Environmental Protection Agency recognized the CFB with an Environmental Merit Award for its work studying and educating the public on human health and environmental impacts of cyanobacteria.

**Documenting Water Quality Impacts After Intense Storms:** Timely sampling of Newfound Lake in 2011 found water clarity in the lake decreased by six to eight meters immediately after Hurricane Irene passed through dumping heavy rains. Water clarity never fully recovered back to pre-hurricane levels that year—an indication that fine-grained sediments washed down from the steep surrounding watershed and remained suspended in the water column for a significant time.

For 40 years (1979 - 2019), LLMP volunteers have contributed over 72,000 hours of their time collecting and analyzing water quality samples on lakes, ponds, tributaries, and outlets. Frequent, often weekly, sampling has developed a robust long-term database for numerous New Hampshire waterbodies. To find out more about LLMP and to start a program or join a program in your community, visit [extension.unh.edu/programs/lakes-lay-monitoring-program](http://extension.unh.edu/programs/lakes-lay-monitoring-program).



LLMP sampling crew at Newfound Lake.

# Country Pond Lake Association— Built from the Lake Up

Since its founding in 2017, Country Pond Lake Association (CPLA) has worked tirelessly to protect water quality and care for Country Pond in Newton, New Hampshire. The group has become a 501(c)(3) nonprofit, built a website and email list, adopted the NH LAKES Lake Host courtesy boat inspection program, recruited volunteer Weed Watchers, and become part of the Volunteer Lake Assessment Program (VLAP). They also continue to build a growing membership program.

“CPLA was off to a great start right from the very beginning,” comments



**Jennifer West, Vice President, CPLA**



**Greg Senko, President, CPLA**

Tom O'Brien, President of NH LAKES. “They have a very resourceful group of people and worked methodically through the process of forming a lake association. I am thoroughly impressed by all they have accomplished in such a short time.”

NH LAKES recently caught up with CPLA to learn more about their journey and how they were able to build a successful and robust lake association. Erin Graichen, NH LAKES Membership Coordinator, sat down virtually with Greg Senko and Jennifer West, president and vice president of CPLA, respectively, to learn more.

## **What was your biggest challenge in starting CPLA?**

Jennifer: Definitely getting the word out to local homeowners and people who care about Country Pond. That was a big job! We wanted people to know CPLA was about water quality and caring for the lake. There were some rough moments, but we all decided to keep pushing and do the right thing for our lake.

Greg: For me, it was understanding what a lake association like ours could do to protect and improve the water quality of Country Pond. There is so much to learn about water quality issues, and it can be overwhelming. Fortunately, there are many great resources available through NH LAKES and the New Hampshire Department of Environmental Services (NHDES). The VLAP, Lake Host, Weed Watchers, and Soak Up the Rain programs really helped us start taking action and getting the right messages out to the community.

## **How has the community responded to your efforts?**

Jennifer: Right from the beginning,

CPLA has been about the environment. In our first year, we did an Earth Day clean up and cleaned up the neighborhood and the beach—we collected bags and bags of trash. That has become an annual event. Because of COVID, last year people went out on their own and posted their pictures on Facebook, but lots of people still participated.

Greg: Community support has been excellent. It has been far more positive than we anticipated. With the strong support, we are growing the Lake Host program at the Newton town boat ramp each year. This year we plan to expand coverage to every day of the week, increasing the hours by nearly 40% over what we accomplished in 2020.

## **What has been most effective for your group in communicating with members?**

Jennifer: During COVID, it's email. But when we first got started and we wanted to get our mission and membership out there and get the word out, we went door to door with flyers around the neighborhoods surrounding the lake and that was very effective. It helped initially so emails didn't go to spam. Just talking to people face to face was really helpful too. Right now, it's the combination of name recognition, the Facebook page, the website, and the newsletter.

Greg: We utilize three main channels to reach our members: our website, email, and Facebook. The website is most successful with providing information resources related to our programs and also for documenting our meetings. We typically email our member list once or twice a month with important news and events. The information from both of these channels gets reposted on social media

along with other topics of interest related to the lake. Social media allows us to reach community members that have not joined our mailing list plus those members who are actively following lake-related news.

**What would be your advice to groups starting up a local lake association?**

Jennifer: Take it one step at a time! Our first year we did water quality and Weed Watchers, and our second year we joined the Lake Host program. It was really the road map from NH LAKES and NHDES that helped us so much. Tom O'Brien came and talked to us and gave us tips on where to start, what to do, and what to focus on. We also reached out to other local associations and asked how they got started and what their best practices were.

Greg: Reach out to NH LAKES and NHDES for guidance early on; they are vital resources to start-up lake associations. There is so much information and training resources available, and we couldn't have done it without them. They will help your organization get the important lake health programs going. Register your organization as a 501(c)(3) tax exempt nonprofit early on, as it adds to your credibility. Strong and consistent

branding is important to establishing credibility. One of our members helped create a logo which we use on our website and on merchandise that we sell to help fund our activities. In addition to these programs, we also worked with local neighborhood associations and local conservation commissions to make it known what we are doing for Country Pond.

**Anything else we should know about CPLA?**

Jennifer: How wonderful it is! We have a committed group of people. Everybody has brought to the table a different skill and different talent. It helped us not have tunnel vision, and all those pieces helped build CPLA into what it is. The diverse group and the commitment from everyone has really been amazing.

Greg: CPLA is fortunate to have a diverse Board of Directors to run the various programs of a lake association. I think this has helped us get up to speed quickly. We have members with strengths in community outreach, social media, lake science, business operations, and general handy work. All these skills are needed for the wide range of lake association activities, from operations to fundraising, to water sampling.



**Country Pond Lake Association Earth Day clean up.**

Congratulations to Country Pond Lake Association for all their hard work. To learn more about CPLA, visit their website at [countrypondlakeassociation.org](http://countrypondlakeassociation.org).

Do you know a lake association or other group doing important work to keep a lake clean and healthy? Let us know!

If you'd like to learn more about starting or building a lake association, please visit the NH LAKES website at [nhlakes.org/local-partner-resources](http://nhlakes.org/local-partner-resources) or reach out to us at 603.226.0299 or [info@nhlakes.org](mailto:info@nhlakes.org).

## “Explore Lakes with NH LAKES” Runs Through 2021!

We're continuing our monthly webinar series through the end of the year with the help of Grappone Automotive Group, the presenting sponsor of the 2021 “Explore Lakes with NH LAKES” webinar series!

“Grappone Automotive loves New Hampshire. We love the trees, the mountains, and the lakes. We've partnered with NH LAKES for the past several years because we believe in the value they bring to one of New Hampshire's most precious natural resources,” explained Amanda Grappone Osmer, the fourth generation of her family to help own and operate Grappone Automotive. “Part of our mission is to build lifelong relationships with our community, and one of the best ways of doing that is to support groups like NH LAKES working to protect New Hampshire's special landscape and way of life. I personally appreciate the NH LAKES team and feel grateful to be able to support their work.”

Make sure to tune in to these free webinars to learn about ecology of lakes and how biologists, nonprofit organizations, and lake management professionals are working together to keep them clean and healthy. And, the series highlights what individuals can do in their home, on their property, and along and on the water, to help keep lakes clean and healthy.

Visit our website at [nhlakes.org/explore-lakes-webinars](http://nhlakes.org/explore-lakes-webinars) to learn more and register, and to view past webinars.





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NH LAKES Staff Happenings

Lakeside is Going Semi-Annual!

## NH LAKES Staff Happenings

**Good luck, Jessica!** At the end of March, we bid farewell to a lake hero. Jessica Sayers has been a wonderful member of our NH LAKES team for more than two years! First, working as a seasonal employee and then taking on a year-round position as the Conservation Program Assistant. She is moving on from our organization to be closer to family in Maine. We know that her passion for protecting lakes won't stop at state borders. We are so grateful for all Jessica has brought to our organization and we can't wait to see what she accomplishes next!



## Lakeside is Going Semi-Annual!

We've made the decision to offer Lakeside semi-annually. With our other methods of communicating with our supporters, we have decided to put more time into meaningful and useful articles twice a year. If you haven't yet signed up for our e-newsletter *Shorelines* to stay in the know on a monthly basis, you can do that on our website at [nhlakes.org/e-news](http://nhlakes.org/e-news). And don't forget to follow us on social media for daily news! Find us on Facebook @NewHampshireLakes, and on Instagram and Twitter @nh\_lakes.

