THE IPA NEWSLETTER

Mystic Lake, Middle Pond, and Hamblin Pond in Marstons Mills, MA

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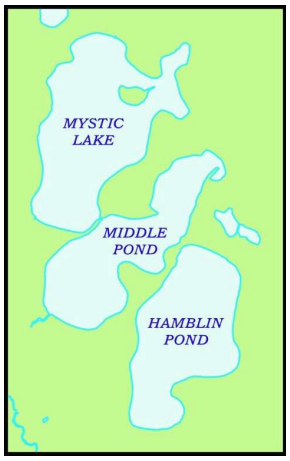

IPA ANNUAL MEETING

The 68th Annual Meeting of the Indian Ponds Association will be held Sunday July 26 at the Osterville Village Library located at 43 Wianno Avenue in Osterville from 1 to 3 pm.

The business meeting beginning at 1 pm will include approval of the previous year's minutes and the current treasurer's report, presentation of scholarship awards, and a brief report by the president. The guest speaker will be Dr. Ken Wagner, Water Resource Services, Wilbraham, MA, who has over 40 years of experience as a water resources manager, including alum treatment, and was the lead planner for all four of the treatments on Hamblin Pond and Mystic Lake. He will talk mainly about why cyanobacteria has recently been detected in our ponds, but will also answer relevant questions.

SCHOLARSHIP RECIPIENTS

The IPA is pleased to announce two 2026 IPA scholarship recipients: Justin Solgovic from Hyannis and Riley Hickey from Marstons Mills. Each will be presented their scholarships in the amount of $1,000 at the 2026 Annual Meeting on July 26. There were 12 highly qualified applicants, and the scholarship committee (Marty Roberts, Kelly Barber, Dave Gorrill, and chair Tom Odjakjian) had a very challenging assignment in deciding whom to select.

Justin Solgovic, a senior at Cape Cod Regional Technical High School, will receive the Edward Schwarm Scholarship. The Hyannis native plans to attend the Massachusetts Maritime Academy where he also has been selected for the Admiral's Award and will major in marine engineering. He is passionate about environmental protections, sustainability, green technologies, and compliance with marine regulations. After college, Justin plans to remain in the area and work in a career that will protect the ocean and inland waters. He cherishes his memories of Hamblin Pond and Mystic Lake, the herring run, as well as tidal flats and salt marshes. He is an avid fisherman and earned a sailing scholarship from the Hyannis Yacht Club, where he was selected as the HYC's Most Improved ILCA/Laser Sailor in 2024. In addition, at Cape Tech, Justin was a member of the National Technical Honor Society, while playing varsity ice hockey (captain and Hobey Baker Character Award) and baseball (MVP); in addition he played for the U18 Cape Cod Threshers travel hockey team. Justin also is currently serving as an HVAC and plumbing apprentice for the Carl Riedell & Son company in Osterville. His HVACR instructor at CC Tech wrote that Justin was reliable, professional, dependable, and distinguished himself with his consistency and technical precision.

Riley Hickey, senior at Barnstable High School, will receive the Emory and Geri Anderson Scholarship She is from Marstons Mills and will attend the University of New Hampshire, pursue a double major in wildlife and marine biology, and follow up with a master's in environmental science. While enjoying the Indian Ponds, she learned about the threat of cyanobacteria, and thus made studying honors environmental science and marine biology at BHS her focus. Her class at BHS provided opportunities to collect water samples at the Indian Ponds and to count herring at Middle Pond, which is her favorite pond, since the water is so clean and clear.

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MESSAGE FROM YOUR PRESIDENT

True Confession: I'm a "wash ashore" and am, as I write this, shortly returning to the Cape from Boston. I always look forward to being back in the Mills and plunking my kayak on a rack close to Mystic Lake. The sun is shining and warmer weather is inching our way after what feels like an extended winter and late spring.

Continually, it strikes me how fortunate we are to have these Indian Ponds. In every issue of this newsletter, you'll find wonderful stories—historical and contemporary—that explore this precious resource, the role our ponds play in the lives of people lucky enough to live by their shores, and efforts to protect this fragile ecosystem. In this issue, you can learn more about why phosphorus is such a concern for freshwater ponds; perspective on Mystic Lake's water quality (spoiler alert: it's good!); and a miraculous account a of a parachuter saved from tragedy by gentle pond waters.

As you read, please remember it takes volunteers to keep the legacy alive. Your active participation—through reading, becoming an Indian Ponds Association member, and helping with various IPA activities—makes all the difference.

In late July, on a Sunday afternoon, the IPA's Annual Meeting—open to all—is an ideal way to learn more about our activities and the matters of greatest interest to the welfare of our ponds. One such topic is the current Hamblin Pond Study, being conducted by the Town of Barnstable, to investigate the source of recent algae blooms, and recommendations for how that should be addressed. The IPA is giving the Town every support and will advocate for appropriate action once the findings are known—as we did so successfully in securing the Mystic Lake alum treatment in late 2024.

We are also seeking new board members. No special qualifications are needed, just interest, willingness to lend a couple hours here and there to help, and IPA membership (whether resident, or a 'friend of'). Not ready to commit? Consider joining as an associate director, or attend one of our board meetings, which are great ways to meet your neighbors, learn more, and actively make a difference.

We are an all-volunteer organization, entirely reliant on member donations. While we do all we can to contain our operating costs, like everyone, the IPA faces inflation pressures, particularly for printing and postage. Accordingly, at the start of this year, the IPA board voted to raise the annual household membership to $35—the first such increase in six years. We're delighted by the positive response from our members and hope you will join in supporting us.

Look out for more information about the IPA Annual Meeting on our website, via IPA email blasts (sign up here: https://www.indianponds.org/contact—scroll to the very bottom of the page to the 'Subscribe to Emails' box) and via postcard sent to all current members a couple weeks ahead of the event.

Welcome to summertime on the ponds: see you on or around the water!

Barry Schwartz

MEMBERSHIP RENEWAL REMINDER

If you've forgotten to do so, please renew your membership by either submitting a check for $35 in the remittance envelope enclosed in your 2026 winter issue of this newsletter or by paying online on the IPA website (https://www.indianponds.org/).

SCHOLARSHIP RECIPIENTS *(Continued from page 1)*

Riley's goal is to return to the Cape, with extensive knowledge, to ensure that the Indian Ponds and other local ponds remain vibrant and clear for generations to come. A member of both the National Honor Society and Math National Honor Society, Riley was active in her school's Marine Biology Club, and served an internship with Cape Wildlife Center, where she assisted veterinarians in rehabilitating injured and sick wildlife. Riley's BHS marine educator said she is an "immensely promising young scientist". In addition to the above, she also volunteered extensively many hours with Scouting America, Education Pathway, Mass Society for Prevention of Cruelty to Animals, the Gender * Sexual Alliance Club, and as a staff writer for the BHS newspaper.

PHOSPHORUS AND PONDS 2.0

This is a follow-up to the article in the summer 2023 issue of this newsletter entitled "Phosphorus: the Devil's Element", written by Emory Anderson, which covered the properties and history of the element phosphorus. The present article will concentrate on the role of phosphorus in the life of ponds, particularly the Indian Ponds.

"Phosphorus" refers to the element generally. "Phosphate" or "phosphates" refer/s to a group of compounds formed by uniting elemental phosphorus with oxygen. Phosphate is the organic form of phosphorus that fertilizes plants and is found in lakes, ponds, rivers, and the ocean.

Phosphorus, in the form of phosphates, is an essential nutrient, together with nitrogen, for plant growth. But, it is also a more dangerous nutrient for ponds than nitrogen for three reasons:

- If phosphorus enters a freshwater body that is not flushed naturally, it has no way to leave. When the pond's plants have consumed all the phosphates they need, the excess falls to the bottom, where it enriches the sediment. Over time, it builds up there.

- Since phosphorus is the limiting nutrient in freshwater, the more of it the pond accumulates, the more plants which the pond can grow and the more rapidly the pond will become eutrophic.

- When dissolved oxygen near the bottom drops to nearly zero, often due to high summer temperatures, phosphorus can be released from the sediments into the water column, where it fuels plant growth, including algae and cyanobacteria.

How does phosphorus get into ponds in the first place? There are (at least) five ways:

- Any organic (animal or plant) matter that either dies in a pond or happens naturally to fall into it, such as billions of autumn leaves year after year, adds phosphorus to the sediments as it decays. When an algae bloom, for example, dies and is decomposed by bacteria and fungi in the water, it adds to the phosphorus load in the sediments and uses up dissolved oxygen that fish and shellfish need to live.

- Agricultural runoff from synthetic phosphate fertilizers, the use of which has increased worldwide 6–10 times since the Green Revolution of the 1950s. This runoff is a tremendous threat to freshwater resources and in recent years became a serious problem in Lake Erie. Agricultural runoff is less of a problem on Cape Cod, as the Cape doesn't have industrially-scaled agriculture, but globally, it is a huge and growing threat.

- Agricultural runoff from non-synthetic fertilizers such as animal manure is accumulated in vast quantities by industrial-scale animal farming. The manure is sequestered in holding ponds until they fill up, after which it is spread on farm fields, where it washes off in rainstorms and runs off into ponds and streams.

- An increasing source of phosphorus in populated areas such as Cape Cod is runoff from developed land, including domestic yards, gardens, and urban hard surfaces. This contains commercial fertilizers, pesticides, animal excrement, vegetation (leaves and grass clippings), and a witch's brew of chemicals that wash off roads and parking lots whenever it rains.

- Groundwater carrying sewage such as leachate from septic tanks is probably the major source of excess phosphorus in Cape Cod ponds, including the Indian Ponds.

As we all know from years of attentively reading the IPA newsletters, when a pond accumulates more phosphates than its plants consume, the excess ends up in the sediments. Unlike oxygen, carbon, and nitrogen, phosphorus cannot be recycled by being converted to gas and released into the atmosphere.

In all ponds, the mucky, low-oxygen sediments in the deepest part of the pond accumulate phosphates year after year that originate from both natural and human activity. In the sediment, phosphates become bound to iron compounds, which inactivate the phosphates and keep them out of the water column as long as the water column remains cool enough to retain oxygen or shallow enough to be aerated by wind. The important part is the oxygen. In very deep ponds or lakes, such as Lake Tahoe (1600 feet deep), temperatures at the bottom of the water column remain cold year-round, maintaining a high enough oxygen content in the deepest water to keep the phosphorus locked up in the sediments, even as phosphate loading from external sources increases.

In shallow ponds, such as the kettle ponds found on Cape Cod, high atmospheric temperatures in summer warm the entire water column. This causes the dissolved oxygen content of the water to decrease because warmer water can't retain as much dissolved gas as colder water. The decrease in oxygen causes the iron in the sediments to be chemically reduced to a form that releases the phosphates back into the water column, where they become immediately available to fertilize algae and cyanobacteria blooms near the surface. Even with little or no external phosphate loading, our ponds, under certain circumstances, can keep producing algae blooms year after year by internal regeneration of phosphorus.

It may be worth noting that phosphorus and nitrogen behave oppositely in conditions of depleted oxygen. Low oxygen promotes denitrification, releasing excess nitrogen into the air through the action of anaerobic bacteria. Unfortunately, these same conditions release phosphates into the pond water.

Each of the three Indian Ponds handles its phosphate loading a little differently. Mystic Lake lies at the upgradient end of the three ponds, which means that it is the first of the three to be exposed to incoming groundwater flow and whatever concentrations of nutrients and other chemicals contained in that flow. Mystic Lake also endured many years of agricultural pollution from Hilding Hord's Dairy (1920s–1960s). At its peak, the dairy had 150 cows and cultivated up to 45 tons of corn a year fertilized with artificial phosphates. The cows were sent through the cow tunnel to drink and bathe in Mystic Lake every afternoon. Mystic has had two alum treatments, one in 2010 after a massive mussel kill the previous year, and a second in 2024.

Middle Pond, the shallowest of the three ponds and only about 35 feet at its deepest point, receives incoming surface water flow from Mystic Lake and sends outflow down the herring run to the Marsons Mills River, thence to salt water at Prince Cove. Middle Pond is shallow enough to be continually stirred by wind throughout the water column. This, and possibly the flushing, enables oxygenated water to penetrate down to the sediments and prevent phosphorus from being regenerated. It is possible that the mussel kill also experienced in Middle Pond in 2009 was caused by deoxygenated and contaminated water that flowed into it from Mystic Lake and not from anoxic water that originated within Middle Pond.

Hamblin Pond, back in the duck farm era (1920s–1950s), was heavily loaded with phosphorus. After the ducks moved out, the pond was treated with alum in 1995, which inactivated enough phosphorus to make the pond clear, swimmable, and a good habitat for trout, which require well-oxygenated water. Since then, Hamblin has maintained good water quality and avoided algae blooms until 2015, when it was treated with alum a second time. It is worth noting that Hamblin handles its regenerated phosphorus differently than the other two ponds, because it has higher oxygen concentrations deeper in the water column, in the upper portion of the hypolimnion. This is possibly because it is a much deeper pond with colder water than its neighbors. When phosphorus is released from Hamblin’s sediments, it encounters this oxygen, which prevents the phosphorus from rising farther by converting it back into the insoluble form that sinks back into the sediments. This helps to keep the upper layers of the pond clear and well-oxygenated.

The fact that phosphorus cannot be recycled back into the environment causes ponds to behave as long-term phosphorus traps. Phosphates accumulate century after century in pond sediments, tending to drive the pond toward eutrophication. Once phosphorus gets into a pond, it can't readily get back out via natural processes, which presents a glimpse of an inevitable future for many ponds: pond succession.

Over long periods of time, a shallow pond with little flushing will become shallower and clogged with plants, and eventually is likely to become a marsh, then a bog, then a meadow. Human sewage, industrial farming, climate warming, and the presence of invasive plants such as gray willow speed up this process considerably.

All of this indicates that phosphorus is not simply a recreational annoyance, but can be destructive to the long-term existence of the pond itself. If excess phosphorus from environmental sources is not managed by people, our ponds will gradually disappear from our landscape.

It seems reasonable to mention that phosphorus is essential for the manufacture of munitions as well as being an essential fertilizer of crops. It is also a major ingredient in glyphosate (Roundup), the world's most widely-used herbicide (the middle four letters of the word give a clue to what it contains) as well as in other products. The phosphate in glyphosate disrupts plant metabolism and cannot be used by a plant for nutrition.

Governments consider phosphorus to be a strategically critical material for both agricultural and military purposes and have a substantial interest in making sure that they continue to have access to a supply. There's a lot of phosphorus in the sediments at the bottom of lakes, ponds, and oceans all over the world, deposited over millennia, which could be harvested by dredging. If phosphorus becomes unavailable from other sources, the temptation to dredge it from lakes and ponds may become financially or existentially irresistible.

Like so many things in today's world, phosphorus is clearly a substance with both beneficial and dangerous qualities. The scope of environmental damage to freshwater resources from excessive phosphates is, as Emory Anderson noted in his article, worldwide and growing. Protecting freshwater resources in our kettle ponds will require the active and ongoing management of both external and internal sources of phosphorus.

Holly Hobart

FOLLOW-UP TO "IS MYSTIC LAKE STILL PROBLEMATIC?"

Responses from readers to my commentary in the winter 2026 issue of this newsletter entitled "Is Mystic Lake still Problematic?" were generally positive, indicating that it was an excellent informative article, but with some uncertainty as to whether the question in the title was fully answered. Therefore, some further comments are appropriate.

Was the alum treatment successful? Technically, the treatment itself was done properly and successfully by the professionals employed by the Town to plan and administer it. Contrary to the 2010 treatment, when the optimal dosage recommended by the professionals was not approved by the Mass Natural Heritage & Endangered Species Program, resulting in a reduced dosage, the amount applied in 2024 was exactly as prescribed. Therefore, one could say that, in that respect, the 2024 treatment was successful. Whether or not the treatment will "hold" and water quality conditions will remain relatively satisfactory for the usual 15–20 lifespan of a typical treatment (as was the case for Hamblin Pond and its treatments in 1995 and 2015), only time will tell and with the benefit of continued testing for phosphorus levels and presence of harmful algae and cyanobacteria.

Should we be happy with the clarity achieved? As pointed out in my winter 2026 article, the 2015 alum treatment in Hamblin Pond was followed by a significant increase in water clarity, whereas the 2024 treatment in Mystic did not result in any comparable increase. It was explained that this difference is due to the presence of zooplankton-feeding alewives in Mystic and the absence of alewives in Hamblin, resulting in much heavier concentrations of planktonic algae for most of the year in Mystic, the cause of reduced water clarity. It is fair to say that we would all be happier if water clarity in Mystic were much better, perhaps as good as in Hamblin, but given the ecological circumstances associated with alewives in Mystic, current levels of water clarity are probably as good as we can expect.

Can phosphorus levels in Mystic Lake be permanently reduced? The quick answer is "No". Phosphorus accumulates in a lake's sediments in various ways: decomposition of organic matter living in the pond or falling into it, agriculture (e.g. Hord's Dairy Farm for Mystic), and septic discharge carried by groundwater. If the lake has an outlet (e.g. stream), some phosphorus may escape that way, but short of physically dredging the lake, which would be prohibitively expensive, it would permanently be there. Also, new phosphorus would always work its way into the lake and its sediments. As said many times over the years, the only effective way to control the amount of phosphorus in a pond and hence minimize the growth of undesirable algae and cyanobacteria is through periodic alum treatments.

Can cyanobacteria blooms occur in lakes treated with alum? Yes, cyanobacteria blooms can still occur in a lake treated with alum (aluminum sulfate), although they are usually significantly reduced or happen less frequently than in a non-treated lake. Hamblin Pond and Mystic Lake have both been treated twice with alum, but blooms have still occurred and recently this spring in both lakes. Why does this happen? Cyanobacteria blooms are triggered by warm water temperatures, abundant sunlight, and excess nutrients. All three factors appear to have been involved in the recent blooms, given the short recent period of warm weather prior to blooms being detected. Since the alum treatments were applied only in water depths of about 20–25 feet and deeper, they were intended to only lock up phosphorus in those deep sediments. However, some phosphorus is always available in the shallower, untreated waters where the blooms tend to be observed.

Do active fish and wildlife populations in and around the lake reflect good or acceptable water quality? The answer is generally "Yes". Nature has an effective way of reflecting water quality conditions in a body of water. The ability of such populations to live and thrive is dependent on adequate sources of food, oxygen, and habitat. If any of these are diminished or become nonexistent, then such populations will decline or disappear. Acceptable water quality generally results in adequate food and oxygen. If we are observant, we can ascertain if particular fish or animal species begin to decline in abundance. This author and perhaps others have noticed fewer fish around our docks in the last few years, which coincides with the presence of a pair of bald eagles making their home next to Mystic Lake.

Since the eagles target fish as part of their diet, we may be seeing fewer fish as a result. Dead and floating fish generally suggests either lack of oxygen or illness of some kind. The most vivid example of unacceptable water quality conditions was in 2009 when millions of freshwater mussels died suddenly as a result of a massive cyanobacteria bloom. With good water quality and in the absence of external disturbances, fish and wildlife populations in a lake should normally live in balance with all components contributing to the welfare of the whole.

To summarize and to answer the original question, I believe Mystic Lake is in as good a condition as can be expected, given all of the caveats noted above. This does not mean that the lake is immune to cyanobacteria blooms, as has been demonstrated recently.

Emory D. Anderson

THE MIRACLE OF MYSTIC LAKE

Editor's note: For readers who may have not heard this story before, I thought it was worth including in this newsletter.

As Lois Ann Frotten gazed out the window of the Cessna as it circled above Marstons Mills on that hot July day, she looked down at beautiful Mystic Lake and thought how refreshing it would be to take a dip.

She didn't mean it the way it turned out.

Moments later, while attempting her first parachute jump from the plane, her foot became tangled in the rigging and the main chute never fully opened. She plunged 2,500 feet, tumbling and finally falling in a seated position into Mystic Lake – and survived.

It was 55 years ago this week that Frotten made national news in what would later be dubbed "The Miracle of Mystic Lake." Her near-death plunge, falling at an estimated 65 miles per hour, was helped when she landed in 20 feet of water cushioned by a deep coating of mud at the bottom.

"She told me that on the way up in the plane she saw Mystic Lake and thought, 'The water looks really beautiful, it would be nice to go for a swim,'" recalled Frotten's daughter, Brenda Higgins, who frequently heard the story as part of family lore. "My mom later said, 'I guess I shouldn't have thought that.'"

Lois (Frotten) Burke Rooney passed away in 2004 in Marstons Mills following a heart attack at the age of 62. However, her death-defying story lives on as one of the most improbable tales in the history of Cape Cod.

On July 18, 1962, 20-year old Lois and her fiancé, John Burke of West Yarmouth, decided to celebrate their engagement by skydiving from a small plane out of nearby Cape Cod Airfield, off Race Lane in Marstons Mills.

A representative from the airfield suggested he come by for a lesson. Thinking it would be a unique way to commemorate their upcoming nuptials, he quickly convinced Lois to join him.

The couple selected a late Wednesday afternoon, after Lois worked her job as a telephone operator in Hyannis, to take the aerial plunge ahead of their scheduled plunge at the altar that coming November.

The single-engine Cessna 182 took off from the airfield at 5:25 p.m., piloted by Irving Morrow, with Jack LaRoche as jump instructor.

On the first pass over the airfield, Burke jumped from the plane and safely landed minutes later. He stood at the airport's target landing center anxiously awaiting Lois' departure from the craft.

A bit nervous about making her first jump, Lois finally jumped on the third pass over the airstrip.

"My dad always said my mom tripped, going out of the plane," Brenda explained. "My dad was on the ground and he watched her fall. He thought he had killed her."

A newspaper report stated that Lois actually tumbled out of the airplane and a parachute sleeve that normally opens automatically became tangled in one of her legs and she was unable to free it.

While she continued her uncontrolled descent, the chute was said to have opened slightly about 100 feet from the water as she freed herself from the harness.

She landed in Mystic Lake "with a terrific splash," according to 14-year old Scott Connell of Marstons Mills, who was one of several witnesses.

"I think one of the reasons that she survived the fall was that she didn't tense up when she was about to hit the water," Brenda said. "She told me she realized that she was falling and there was nothing she could do, so she curled up in a fetal position and blacked out."

"The fact that she wasn't tense – they say hitting water is like hitting concrete – is probably what saved her," she added.

Connell ran to get his family speedboat while Fred Whiteley, who was fishing nearby, also sped to her rescue.

Burke, watching helplessly at the nearby airfield, also ran toward the lake. In the meantime, LaRoche parachuted from the craft and into the water to support Lois, while awaiting the boat and rescuers who stabilized her above the water.

"They pulled her out just enough to get her face out of the water because they didn't know the extent of her injuries," Brenda said. "They were able to get her to the shore."

The spot in the water where she landed was an estimated 20 feet deep. Police later said that the muddy bottom of the lake and the fact that she "landed in the water in a sitting position" likely saved her life.

As she was rushed by ambulance to Cape Cod Hospital, a dazed Lois kept asking, "What did I do wrong?" still in a state of shock.

Lois broke three of the five lumbar vertebrae, her nose and had various cuts and contusions on her face. She spent four to six weeks in a back brace, but was in good spirits the following day at a press conference held at Cape Cod Hospital.

"For a few moments, I had a wonderful free feeling," she told a group of reporters at her bedside. "Then when I saw the chute was not going to open, I thought, 'The heck with it. I'm going down.'"

The wire services picked up the story, which was carried in newspapers all across the country.

"My mom had a huge scrapbook where people sent her clippings from all over," Brenda recalled.

Shortly after the jump, Lois and John were interviewed on the CBS-TV show "Who in the World," hosted by Warren Hull.

Then on September 10, 1962, she was one of the contestants on the game show "I've Got A Secret." She whispered her two-part secret to host Garry Moore: "I made my first parachute jump this summer …. My chute didn't open!"

Lois became Mrs. John Burke on Nov. 10 of that year at the Church of the Immaculate Conception in Brewster. Nine months later their daughter and only child, Brenda, was born.

After a 10-year marriage, Lois and Jack divorced and she later married Edward "Ned" Rooney. They lived in Marstons Mills until Rooney's death in 1995, and Lois passed away of acute myocardial aversion nine years later.

In addition to her daughter, she left two grandsons – Thomas and Robert Higgins, who would later produce great-grandsons Bradley and Carson.

Passersby today look at beautiful Mystic Lake in Marstons Mills and may consider stopping by for a refreshing swim. However, it's important to keep in mind that there's a right way and a wrong way to enter the waters of Mystic Lake.

Fortunately for Lois Frotten, although she went about it the wrong way, she lived to tell about it.

And what a story it was.

Mike Richard
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July 14, 2017

POND TESTING

The annual testing of the Indian Ponds has begun. This testing, starting each year in late April, continues into October. Bob Derderian handles the testing of Hamblin Pond, while Emory Anderson, with the assistance of IPA volunteers, is responsible for Mystic Lake and Middle Pond. This testing, done over the deepest spot in each lake, involves water clarity measurements using a Secchi disk and temperature and dissolved oxygen concentrations at 1-meter intervals from the surface to near bottom. Starting in 2025 and continuing this year, staff from the Town's DPW (Brooke Withers, Amber Unruh, and summer interns), with the assistance of Emory (providing his boat), have conducted monthly testing and water sample collection of three locations in Mystic Lake and one location in Middle Pond to monitor the effectiveness of the December 2024 alum treatment.

"To preserve and protect the natural environment and ecological systems of the Indian Ponds and surrounding parcels of land and watershed and to participate in studies and work with other agencies, individuals, and groups to educate the public, serve the community, and promote and preserve the Indian Ponds and surrounding areas." IPA Mission Statement

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FORWARDING SERVICE REQUESTED