

# THE IPA NEWSLETTER

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

Summer 2024

A quarterly publication of the Indian Ponds Association, Inc.

Vol. 24 No. 3



## 66<sup>TH</sup> IPA ANNUAL MEETING

### Introduction

The Indian Ponds Association held its 66<sup>th</sup> annual meeting on July 21 at the Michael R Kramer Center at Fuller Farm on Route 149, starting at 3:00 pm. It was a cloudy day that was warm and rain-free. Fans kept the air very comfortable inside the rustic wooden building with about 38 participants. Refreshments after the meeting were donated by the Marstons Mills Stop & Shop, Trader

Joe's, Cotuit Liquors, and Shaws. John Kayajan generously donated the use of extra chairs.



Susan Baur

### OLAUG

Susan Baur of "Old Ladies Against Underwater Garbage" (OLAUG) announced that they would be at Hamblin Pond on August 6. She explained that the group was formed in 2015 and currently has 25 members age 64–84. They enter the ponds in teams of two kayaks and four swimmers. The swimmers with snorkeling equipment scour the bottom of the lake for whatever trash they can find. The trash is loaded onto the kayaks and floated back to the shore where it is disposed of by the host organization. For her work with this organization, Susan received the 2024 American Red Cross Climate Resilience Award. Congratulations to Susan and her band of senior women swimmers.

### Business meeting

Last year's meeting minutes and the treasurer's report were quickly approved. Barry Schwartz was welcomed back to the Board after several years of absence. Kelly Barber was elected as an Associate Director with the hope that she would become a full Board member after satisfying other fall commitments. Scott Borden, Tom Odjakjian, John Chiniara, and Bob Reynolds were each re-elected to 2-year terms.

### Scholarship awards

Marty Roberts announced the 2024 scholarship awardees, Hailey Fink for the Edward Scharm Memorial Scholarship and Carter Hickey for the Emory and Geri Anderson Scholarship. Carter shared his educational goals in a short presentation. Be sure to check out our website to learn more about these talented future environmental leaders.

### President's message

Butch Roberts presented the President's Report which is included elsewhere in this newsletter. He stressed the need for community involvement, pointing out the Town agency charged with protecting our ponds, the Conservation Commission which is grossly overworked and underfunded, with only one enforcement officer for 182 freshwater ponds and miles of shoreline. He pointed out a study by the Cape Cod Commission that found healthy ponds increase property values within the broader community by 9%. *(continued on page 5)*

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## IPA OFFICERS AND DIRECTORS 2024–25

### President

Barry Schwartz

### Vice President

Scott Borden

### Treasurer

Greg Cronin

### Clerk

Wendy Bierwirth

### Directors

John Chiniara

Tom Hamilton

Tom Odjakian

Robert (Bob) Reynolds

Ron Thalheimer

### Associate Director

Kelly Barber

### Database Manager

Butch Roberts

### Newsletter Editor

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## MESSAGE FROM THE OUTGOING PRESIDENT



The 2023/2024 fiscal year has been one of introspection and forward-looking. In October, the Board of Directors held a strategic planning workshop and reached the consensus that there were four areas for future focus:

- sustaining pond health with an emphasis on monitoring and remedies,
- building community outreach and support,
- improving our communication approach to protect and enjoy the ponds' ecosystems,
- building and expanding skills within the Board and the volunteer base with an emphasis on science, community, and engagement.

There is a developing community of scientists, citizen scientists, and engaged community members growing on the Cape. We see our role as developing that community within our neighborhood and building interactions with the larger scientific community outside of our neighborhood. Through an evolution of this concept came the birth of our Ponds Appreciation Day.

This year, we made an effort to become a presence at the various neighborhood associations within our footprint. Our regular attendance at the Marston Mills Village Association's meetings has helped make us more visible to the community as well as give us valuable feedback. We are very appreciative of being invited to several of the homeowners' association meetings around the three ponds. This two way dialogue works to the benefit of our pond's health.

We recognized the strong core of volunteers committed to ensuring the health of our three ponds and carrying on the work of our organization. Building a stronger core of volunteers will help to meet the growing challenges of the future. We are hopeful that the exposure of the Ponds Appreciation Day will inspire some new volunteers.

Healthy freshwater ponds not only benefit those living on the shores of those ponds, but also the entire community. All three ponds have public boat access and public swimming beaches. The recreational activities available because of clean freshwater ponds help to build the vacation economy of the Cape. The old saying "it takes a village" applies to the maintenance of the health of freshwater ponds, and our Indian Ponds in particular. We appreciate the community support that we have received which has helped make these ponds some of the cleanest on the Cape.

The threats of a warming climate, the rising cyanobacteria risk, and the lack of sufficient wastewater infrastructure around our ponds mean that our ponds continue to face challenges. To stay ahead of these issues, we will need your support.

- **Support the IPA – how you can help:**
  - Volunteering:
    - Newsletter articles
    - Scholarship committee
    - Collecting pond data
    - Managing database & website
    - Helping at events
    - Joining the Board
- **Becoming/continuing to be an IPA member.**

*Butch Roberts*

**TO VIEW THIS NEWSLETTER IN FULL COLOR,  
GO TO THE IPA WEBSITE: [www.indianponds.org](http://www.indianponds.org)**

## MYSTIC WATERS

My wife's parents moved to Sandwich in 1993, and for more than a decade, we regularly spent time visiting Cape Cod. During visits, I often enjoyed the drive along Race Lane that offered a view of Mystic Lake. With its Ram Island and blue water, I was sure that Mystic was undoubtedly the most beautiful freshwater lake on the Cape. When buying our home at Lynxholm in 2021, I first witnessed the bald eagles flying low over Mystic's waters. There were loons and other waterfowl. I knew nothing of cyanobacteria blooms or mussel die-offs.



Mystic Lake with Ram Island in the center

It was a year later that I learned of the Indian Ponds Association and its successful efforts to persuade the Town of Barnstable to invest in another needed clean-water-sustaining treatment for Mystic Lake. Cyanobacteria is an issue. The water quality data collected following an earlier alum treatment in 2010 showed only limited improvement. Now, a second treatment is scheduled for this fall.

### Cyanobacteria

Cyanobacteria blooms are dense concentrations of cyanobacteria (blue-green algae) that can form on the surface of freshwater bodies. These photosynthetic organisms are naturally present in freshwater, but can reproduce quickly and grow out of control. They can pose a health risk to people and animals as they can produce cyanotoxins that can cause acute and chronic effects. In extreme cases, exposure can be fatal.

### Phosphorus

In healthy ponds and lakes, nutrients are needed to grow the algae that form the base of a complex food web supporting the entire aquatic ecosystem. With nitrogen and carbon being naturally very abundant, it is the amount of phosphorus in the water that determines how much algae and other plants can grow. In the presence of too much phosphorus, there are adverse consequences. Past studies concluded that because of excessive amounts of phosphorus, Mystic Lake "is clearly impaired". This has resulted in excessive algal blooms and rampant growth of rooted aquatic plants. When excess algae and plants die and settle to the bottom of the pond, bacteria break them down consuming dissolved oxygen from the water. Bottom waters lose oxygen in the summer. Fish habitat is reduced

because of low oxygen. They and other aquatic organisms can die from lack of oxygen. Water clarity is reduced. Waters can assume unpleasant odors. Property values decline.

### How did phosphorus get into Mystic Lake?

According to an earlier report completed in 2006, the phosphorus budget for Mystic Lake indicated that the load of total phosphorus is from the following sources:

- internal regeneration 77%
- waterfowl 8%
- septic load 8%
- direct precipitation 4%
- roads 2%
- roofs 1%
- lawn fertilizer <1%

Why is the internal regeneration component (resident phosphorus) so large? It's from a slow accumulation over the years from multiple sources entering the lake via groundwater or the lake's surface and ultimately finding its way to the lake's bottom sediments. Based on the 2006 pond study findings, observations of area residents, and historical information, the following are likely sources:

- fecal waste from dairy cows on the former Mystic Lake Farm
- superphosphate fertilizer and manure applied to the Mystic Lake Farm fields
- fertilizer applied to cranberry bogs north of Mystic Lake
- fecal waste from pig farm north of Mystic Lake
- garbage dumped into Mystic Lake
- fecal waste from waterfowl
- organic detritus from tree leaves, plants, and algae
- wastewater from residential septic systems

Since phosphorus moves at only 3 ft/year in groundwater, most leaching from residential septic systems has yet to reach Mystic Lake. Just as the Clear Lake Duck Farm (1920–1955) heavily impacted Hamblin Pond from fecal waste, farming sources appear to have impacted Mystic Lake, leading to the excessive phosphorus that now exists in the lake sediments.

### Mystic Lake Farm

The Mystic Lake Farm (1919–1962), Cape Cod's largest dairy farm, was located west of the Cape Cod Airfield and north of Mystic Lake. It was situated on the edge of what was called "the Plains", a large area north and east of Race Lane and Mystic Lake. This open flat area had far fewer trees than today. The Lawrence Bridge, first built in 1818 (later re-built), offered cows access to Mystic Lake under Race Lane. It remains today, next to the airfield's

*(Continued on page 4)*



## MYSTIC WATERS (continued from page 3)

parking lot. The farm grew to 92 acres with 150 dairy cows, primarily Jerseys. Milk products were sold first in Marstons Mills and Osterville; later the farm expanded with deliveries to Centerville, Falmouth, and Chatham. Eventually, with six trucks, even Truro received milk, cream, and other milk products. At the high point, 1500 quarts of milk and 500 half-pints (for schools) were delivered daily.

The owner was Hilding Hord, a Swedish immigrant. His first wife, Helga Dahlberg, persuaded him to purchase the 75-acre Lewis farm in 1919 and taught him to milk cows and run the farm. After Helga died of tuberculosis at age 24, Hilding took a second wife, Hanna Bergstrom. Hanna,



Hilding Hord milking one of his cows

also a Swedish immigrant, was born into a dairy farm family in Sweden. Both women were important in the farm's success.

It is believed that the Mystic Lake Farm was the primary contributor to the phosphorus that resides in the bottom sediments of Mystic Lake. Cows, with unimpeded access to the lake via the tunnel under Lawrence Bridge on Race Lane, were often seen defecating while standing in the pond's water. Estimates of cow manure production vary, but one estimate suggests that an average dairy cow produces 65–150 lbs. of feces or manure daily (depending on whether they are producing or not—that's 12–27 tons a

year per cow! Most of this was either deposited directly or drained into the pond. The farm's fields were fertilized with heavy doses of superphosphate (600lb/acre/year) and the excess not utilized by the crops or hay grown to feed the cows together with cow manure (containing phosphorus) also applied to the fields leached into the groundwater and in that way worked its way into the lake. Hanna is quoted saying, "We used to buy whole railroad cars full of fertilizer. You had to put lots of fertilizer, bone meal and lime into the soil."

### Mitigating the phosphorus in Mystic Lake

Treating the water with aluminum sulfate is currently the best method of mitigation for excess phosphorus in freshwater ponds and lakes. Aluminum sulfate, called alum, when added in liquid form to lake water, forms an aluminum hydroxide, an insoluble precipitate which forms a flocculent material (floc) which settles to the lake bottom and creates an aluminum hydroxide blanket barrier that retards the release of phosphorus into the water column where it fuels the production of algae. The aluminum hydroxide blanket, when applied appropriately, should reduce the release of internally supplied phosphorus for 15–20 years. An alum treatment is scheduled for Mystic Lake this October.

### Final thoughts

During my short time living here, I've come to realize that beautiful Mystic Lake, as well as the other two Indian Ponds, face ongoing challenges that need to be addressed. The Indian Ponds Association is committed to understanding and confronting these challenges to the ponds' ecosystems. This quarterly IPA newsletter will continue to inform readers of the Board's concerns, efforts, and suggestions for best practices for the health of our environment. Today, the best solution for the elevated phosphorus is an alum treatment, but tomorrow's technology will bring other options and solutions. Recently, our collaboration with resources at UMass - Amherst educated the Board to the benefits of the freshwater mussels in cleaning the water of these ponds. We depend upon the participation and support of you, our neighbors, to help meet the challenges. Our successes will enrich the lives of our entire community who live near or otherwise use the ponds.

*Scott Borden*

## IPA CAPS FOR SALE



IPA caps are available to purchase for \$25. Help publicize the organization while keeping the sun out of your eyes and keeping your head cool! For information on how to buy one, check the IPA website ([www.indianponds.org](http://www.indianponds.org)).

## REPORT OF 66<sup>TH</sup> IPA ANNUAL MEETING *(continued from page 1)*

### Guest speaker



Brooke Withers, Water Resources Coordinator in the Town's Department of Public Works, discussed the forthcoming Mystic Lake alum treatment which will reduce available phosphorus in the water column. This is scheduled to happen in October of this year. Biodrawver-sity, an ecological consulting firm headquartered in Amherst, MA, will be monitoring the health of the pond prior to the treatment. Approximately two weeks before the treatment, the rare freshwater mus-sels around the northern shore and some around the southern shore of the lake will be removed to a safe loca-tion, to be returned after the treatment.

Brooke also discussed the work being done to relocate the Middle Pond herring run from its current location to its his-torical location. This project is in its design phase and is

intended to provide more room and better water quality for the seasonal herring migrations.

The floating-island pilot treatment plan intended to reduce phosphorus in the water was deployed on Long Pond in Marstons Mills in May of this year. This is available for the public to see; however, the lake has been under a number of published health advisories for cyanobacteria blooms.

### Closing

The public meeting adjourned at 4:45 pm followed by a generous spread of refreshments and an opportunity to socialize. The new Board met immediately after the ad-journment to elect officers for the upcoming year. Barry Schwarz was elected president, Scott Borden as vice-president, Wendy Bierwirth as clerk, and Greg Cronin as treasurer. Thank you to all of the attendees. The health of our ponds requires all of us to care and to participate.

*Butch Roberts and Wendy Bierwirth  
Photos in this article by Rachel Jones*

## HAMBLIN POND CLEANUP

On August 6, we had the Hamblin Pond cleanup by the Old Ladies Against Underwater Garbage (OLAUG). Susan Baur, the leader, wrote this: "A smooth and trouble free clean up of Hamblin Pond with the old ladies against un-derwater garbage. Although rain threatened, 8 swimmers and 4 kayakers set out to explore what turns out to be one of the cleanest, clearest ponds we've swum in this year. In a one- hour swim which covered 75 percent of the shore-

*line we did not encounter the usual beer cans, golf balls, fishing lures and snack wrappers! However we did find a big truck or tractor tire rim crumbling with rust, a bunch of half burned boards, and an ancient green rug wrapped around fallen branches. Tom wrestled that out of the weeds."*

*Tom Odjakjian*



Participants (l-r): Jean Bourdon, Alison Leschen, Molly McKeon, Marci Johnson, Susa n Baur, Sarah Spegler, Paule Craton, Carol Bowers, and Janet Lefko



## NEW IPA DIRECTORS

Over the last two years, there has been considerable turnover in the composition of the IPA Board of Directors. Some terms have expired, while other directors have, for various reasons, resigned. It has been difficult to find replacements for the various vacancies, so two appointments were made by the Board. One such appointment was last fall when Scott Borden, who had been selected as an associate director at the 2003 annual meeting, was elevated to be a director. The other was Ron Thalheimer who was appointed in April 2024. At this year's annual meeting, Barry Schwartz, a previous Board member (2016–2022), was elected as a director, and Kelly Barber was selected as an associate director.

At the present time, in spite of these new additions to the Board, which currently numbers nine directors, there are two vacancies. In due time, the Board will elevate Associate Director Kelly Barber to be a director. This would still leave one vacancy. Therefore, the Board is desperately seeking someone with a strong interest in the welfare of the ponds to consider volunteering to serve as a director. **The future of the IPA is only guaranteed if people are willing to step forward and serve.**



**Scott Borden** is a typical boomer, born in Ashtabula Ohio. Yes, Ashtabula! After graduating from the University of Connecticut, he served in the Navy until 1978. His professional years began in Colorado, skiing and occasionally selling college textbooks. Through work (not skiing), he met and married Andrea in 1984. In 1990, following a move to Michigan, his work in the

higher education arena continued with the Pearson Corporation, the world's largest learning company. Daughter Charlotte, born in 2001, is enrolled at Denison University studying writing and film. Scott and Andrea moved to Cape Cod in 2021 where Andrea's family resides. They're enjoying life every day in the Lynxholm community, surrounded by Mystic Lake's bucolic scenery.



**Ron Thalheimer** was appointed to the Board in April 2024 to fill a vacancy. Ron and his wife Julie have had a home on Wheeler Road for 12 years. They moved here permanently four years ago. Ron has worked in financial services for over 40 years, with 15

years in banking and 22 years with Fidelity Investments. He is currently working as a consultant for Broadridge Financial Solutions, Inc. Ron is also the president and treasurer of the Wheeler Road Association. They have four adult children and two grandchildren.

**Barry Schwartz** has been involved with private non-profit and state-funded organizations during his professional career and volunteer activities. In Boston, he is currently on the Board of the Jamaica Pond Association and chair of the Adult Learning Committee at Temple Sinai. He recently ended his term on the Board of Trustees at Temple Sinai. In Marstons Mills, he was previously the president of the Regency Drive Owners Association and also served on the Board of the IPA in 2016–2022.



Barry was recruited to the Cape to be the executive director of a small non-profit and found a wonderful neighborhood where he and his wife Joyce continue to live when not in Boston. However, they come back to the Cape throughout the "off season" (if that really exists). He loves the lakes and wants to ensure they continue to thrive. They no longer use fertilizer on their lawn and have their septic tank pumped every two years. They have an organic garden at the Long Pond Conservation area and enjoy landscaping and planting trees, shrubs, and bushes in their yard.

**Kelly Barber** has been serving the Cape Cod conservation community for the last ten years, first arriving in 2014 through AmeriCorps Cape Cod. Kelly's educational background has focused around water quality, watershed health, natural resource stewardship and restoration, and non-profit management. This coming December, she will complete a Master's in Natural Resource Stewardship with a specialization in Ecological Restoration. Kelly is passionate about the health of wellness of Cape Cod's natural communities and feels blessed to be able to support the need in a professional role with Barnstable Land Trust and personally as a volunteer with several community groups. As an incoming resident on one of the ponds, Kelly is looking forward to supporting the strategic goals of the Indian Ponds Association.





## PONDS APPRECIATION DAY

The IPA Ponds Appreciation Day was held on July 20 and was co-sponsored by the Barnstable Land Trust, Orenda, and Barnstable Clean Water Coalition (BSWC). Events included snorkeling with mussels, kayak race, turtle nest building, kids activity table, and a tour of a bog restoration project. Most of these events were held at the Hamblin Pond public beach, while snorkeling for mussels was done in Middle Pond, and the bog tour was conducted by BCWC in one of their recently acquired cranberry bogs. Although attendance was limited, the execution of all events was well done with informative and interactive presentations. The photos below were taken by Rachel Jones.





*“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

