

THE IPA NEWSLETTER

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

Summer 2021

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2021 IPA ANNUAL MEETING



Betsey Godley awarding scholarship to Audrey Sawyer.

After missing a year because of the pandemic, the 63rd annual meeting of the Indian Ponds Association was held Sunday July 11. As with the previous several years, the meeting was held on the lawn of John and Deirdre Kayajan overlooking beautiful Mystic Lake under a spacious tent. About 50 members and guests were in attendance. Following the business meeting, a social hour was held thanks to donations by Cotuit Liquors, Trader Joe's, Stop & Shop in Marstons Mills, and IPA directors and members.

The business meeting included approval of the minutes of the 2019 annual meeting, presentation and approval of the treasurer's reports for fiscal years 2020 and 2021, election of directors, presentation of Schwarm Memorial scholarships, IPA president's report, and address by Barnstable Town Manager Mark Ells.

Elected to the board of directors were Wendy Bierwirth and Greg Cronin to first two-year terms, Sandy Leo-Clark to a second two-year term, and Betsey Godley to a third two-year term (see article on page 2).

Betsey Godley, chair of the Schwarm Memorial Scholarship Committee, introduced two very deserving recipients, Audrey Sawyer and Michael Veres, who were selected on the basis of their respective academic achievements, extracurricular activities, and community service. Betsey presented certificates and checks for \$1,000 to each student. Audrey is a Barnstable High School graduate and will be attending the University of Vermont in the fall with plans to pursue a career in environmental protection. Upon graduating from Sturgis Charter School, Michael will be attending the University of Southern California and plans to become a psychiatrist.



Betsey Godley awarding scholarship to Michael Veres.

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IPA OFFICERS AND DIRECTORS 2021-2022

President

Emory Anderson

Vice President

Peter Atkinson

Treasurer

Greg Cronin

Clerk

Wendy Bierwirth

Directors

Betsey Godley

Bill Hearn

Sandra Leo-Clark

Jim McGuire

Maurice (Butch) Roberts

Barry Schwartz

Nicole Sturgis

Database Manager

Butch Roberts

Newsletter Editor

Kathy Bryan

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Wendy Bierwirth

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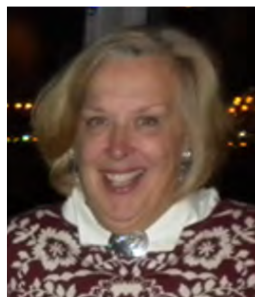
NEW IPA DIRECTORS

At the July 11 annual meeting of the Indian Ponds Associations, two new directors (Wendy Bierwirth and Greg Cronin) were elected to the board of directors and two current directors were re-elected, Sandy Leo-Clark to a second two-year term and Betsey Godley to a third two-year term.

Greg Cronin has lived in the Indian Ponds area with his wife, Lois, since 1983. They raised two sons in a home on Old Mill Road and spent countless hours on Mystic Lake. After retiring from the Federal government in 2010, they moved to the Whistleberry neighborhood, a short walk to Middle Pond. He enjoys swimming/snorkeling and kayaking on the ponds and loves to observe the plant and animal life in and around the ponds. Greg previously served on the IPA board from 2012 to 2018 and helped with water testing and Hydrilla monitoring. His interests include birding, road cycling, and amateur radio (HF). Pre-Covid, he and Lois had been spending six weeks or so each year in the late winter traveling to Arizona and New Mexico, something they hope to do again when things return to "normal". Greg has agreed to serve again as IPA treasurer.



Wendy Bierwirth moved from Maryland to Cape Cod in 2016, retiring in 2018 after 40+ years in corporate aviation. She is active with a number of local organizations, serving as a commissioner for Cape Cod Gateway Airport, commissioner for the Barnstable County Human Rights Advisory Commission, secretary for the Marstons Mills Historical Society, secretary for the Wheeler Road Association, and a member of the Cape Cod League of Women Voters. She lives at the end of Carsley's Neck (Wheeler Road) with her sister, Bette Ann, three dogs, and two cats in what she calls "delightful chaos". Wendy has been the IPA webmaster and social media "guru" since fall 2019 and was appointed as associate director in 2020. She has now agreed to serve as IPA clerk (secretary).



Emory D. Anderson

THINGS YOU SHOULD KNOW

How did phosphorus get into Mystic Lake? The main source is internal regeneration (i.e. phosphorus already there from earlier sources). Check out the article on page 4 of the spring 2006 IPA newsletter found in the newsletter archives (<https://www.indianponds.org/older-newsletters>) on the IPA website.

How many freshwater mussels were killed by the massive 2009 cyanobacteria bloom? A survey estimated as many as 24 million. Check out the article on page 7 of the summer 2010 IPA newsletter found in the newsletter archives

The IPA depends on its members for their generous financial support so we can continue printing and mailing our quarterly newsletter, a great educational tool which now has a distribution list of around 800 recipients, continue the Schwarm Scholarship program, and fund various pond activities and miscellaneous costs for pond sampling equipment and supplies, annual meeting expenses, and annual reporting fees to state and Federal authorities.

Emory D. Anderson

2021 IPA ANNUAL MEETING

(Continued from page 1)

President Emory Anderson, in his report, summarized the following:

Pond status. Of our three ponds, Hamblin is in the best shape; it could be called the “poster child for alum treatments” as it so infrequently experiences problems with cyanobacteria, and water clarity and dissolved oxygen content are very good. Middle Pond is also very good, primarily because it’s relatively shallow and benefits from continuous mixing by wind and wave action. For the past two decades, Mystic Lake has been the focus for improvement; problems stem from its long history of agricultural pollution (principally from the former Hord Dairy Farm) and an inadequate alum (aluminum sulfate) treatment in 2010. As with all lakes on Cape Cod, accumulation of organic matter of all kinds can lead to excess nutrients, mainly phosphorus. In 2020, at the board’s request, Dr Ken Wagner of Water Resource Services conducted a study of Mystic Lake. His report concluded that internal phosphorus loading in lakebed sediment remains the dominant source of phosphorus in Mystic Lake. Management of this Internal loading requires control of the interchange between the sediment and the overlying water, especially where dissolved oxygen is low or nearly absent. Three main options for achieving such control include dredging, inactivation of P by chemical means, and oxygenation. Based on cost considerations, inactivation of phosphorus in the sediments with alum is the least expensive option and is most likely to achieve water clarity and algae management goals for the lake.

Cyanobacteria monitoring. The IPA collaborated with the Association to Preserve Cape Cod (APCC) for cyanobacteria monitoring for two years, but opted not to do so this year, mainly because the Town was already doing such monitoring. This spring, however, we learned that the Town employee who did this monitoring was retiring, so we are not aware of how the Town is planning to handle this monitoring. We have learned, however, that test results for Mystic Lake and Middle Pond as of the end of June show low levels.

Hydrilla treatment. For seven years, the Town has continually funded treatment for the invasive weed *Hydrilla*. The first seasonal treatment was on June 25, with the second to take place in late July. Research and experience elsewhere show that at least 10 years of continuous treatment is required to eradicate this weed, and we hope the Town will extend its treatment program for at least another three years.

Membership. The IPA is a strong organization in good financial shape with a stable membership of approximately 170–180 households. We are currently close to historic high member levels.

New initiatives. To encourage participation and engagement, several new IPA initiatives were introduced in the past financial year. These include offering quarterly newsletters via e-mail rather than print; online membership registration; online payment of annual dues/contributions; and launching an IPA Facebook page. It appears that 24 membership forms have been initiated/renewed online and 24 people have paid via PayPal. However, the vast majority of our members continue to pay dues/make donations by paper check.

Directors. Thank you to outgoing directors Kathy Bryan and Maggie Fearn. Both joined the board in 2014 as associate directors and were elected to their first terms in 2015. Kathy was elected vice-president in 2015, but effectively served as president for a year. Kathy also took on the job of newsletter editor and has agreed to stay on in that role. Maggie served as database manager from 2015 to 2018, clerk from 2016 to the present, and treasurer from 2018 to the present.

New blood needed. Next year, nearly half of the board, including all current officers, will have cycled off, meaning within the space of two years, the entire leadership will have turned over. We need new people to get involved. Many neighbors and friends have invested a lot of time and energy to get the organization to its current state, but the time comes when we need new blood—the younger, the better. Board positions are not onerous, and directors meet as required: sometimes every six weeks, sometimes every couple months, depending on the issues at hand.

Seminars and training. The IPA’s mission to educate and inform people about the ponds and their welfare is key. We believe many people don’t understand how ponds function, the problems that confront them, and how issues such as cyanobacteria and invasive vegetation can best be addressed. To encourage awareness and engagement, we are introducing a basic pond seminar to be conducted by Emory Anderson and Bill Hearn—both hold PhDs in fisheries and aquatic sciences. Those interested in participating in such a seminar are asked to sign up here at the meeting. The seminar will be scheduled depending on interest and availability of those who wish to attend.

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POND CLEANUP

A cleanup of derelict and assorted items and trash on Middle Pond and Mystic Lake was done in August. It had been several years since the IPA had last organized any such cleanup. This cleanup involved several individual efforts as well as a group project organized by the board of directors.

The first effort was by Director Butch Roberts, his wife Marty, and Jonathan Fain who retrieved a derelict raft that had been floating around Middle Pond for some time and towed it to the Town landing at the south end of the pond where it could be picked up by the Town DPW and disposed.

A second effort was by Ryley King (age 15) and his younger brother Chase (age 11), sons of Charles (Chip) and Nicole King, who live on Mystic Lake, who took it upon themselves to collect trash and litter found along the shore of Mystic Lake. This initiative by these young men is commendable and reflects their desire "to make the habitat healthier and safer for not just us, but the fish, frogs and turtles". Ryley has promised to provide some photos showing their work which we will post on the IPA website and possibly include in the next newsletter.

The final effort, initiated by the board of directors and held on August 28, was to collect numerous benthic barriers in both Middle Pond and Mystic Lake, constructed of PVC tubing and opaque matting, that had been placed on the sediment over known beds of the invasive *Hydrilla* plants in 2011–2014 by IPA volunteers in an attempt to suppress the growth of the *Hydrilla*. Since those barriers had outlived their original purpose, given the herbicide treatments of the plants over the past seven years funded by the Town, it was decided to remove them. These barriers and other derelict items found by the IPA volunteers were transported to either the Middle Pond or Mystic Lake Town landings for removal by DPW personnel.

Emory D. Anderson

FIRST-EVER IPA POND SEMINAR

Conceived in a discussion at the June 17 meeting of the IPA board of directors and publicly mentioned and promoted in the president's report at the July 11 annual meeting, the idea of convening a seminar to help educate members about the Indian Ponds came to fruition. Emory Anderson and Bill Hearn, both retired PhD-level fisheries scientists and IPA directors, had agreed in advance to present such a seminar. When advertised at the annual meeting, eight attendees signed up as being interested in attending such an event. In the end, eight people (not all the same as those who signed up) participated in a three-hour session held at the Anderson home on Saturday July 31.

The stimulus for organizing such a session was the realization that more people, preferably younger people, need to become involved in the work of the IPA by assisting with activities such as pond testing and/or by serving on the board of directors. Although the IPA has attempted over the years, by means of its quarterly newsletter, to educate readers on various aspects of pond issues, it is evident that many people, unless possessing formal educations in biological sciences, do not fully understand how a freshwater pond functions, the problems affecting the ponds, and ways and means to deal with those problems. Based on the initial interest expressed by many at the annual meeting, the number of people willing to spend three hours on a warm Saturday afternoon listening to fairly technical presentations and to ask relevant questions, and the positive feedback after the session reinforces our belief that the seminar was needed and appreciated.

The overall topic addressed by the seminar would normally have normally been covered by a college-level course in limnology, which is the study of the biological, chemical, and physical features of lakes, ponds, and other freshwater bodies. Consequently, each of the seminar's agenda items was, by necessity, touched upon rather lightly. We alternated in talking about introductory items; temperature stratification; pond components such as chemical (oxygen, nitrogen, phosphorus, iron), animals, plants, and trophic levels; biological components (bacteria, plankton, macrophytes, benthic invertebrates, and fish); and pond problems to monitor and address (IPA's pond testing program, alum treatments, nutrient inputs, *Hydrilla* and other invasive plants). There was considerable back-and-forth between presenters and participants.

If and when any additional seminars like this will be scheduled in the future depends on the level of interest conveyed back to the board. Another option would be us to prepare a more refined videoed presentation which could be posted on YouTube and made accessible via the ICES website. Let us know what you think.

*Emory D. Anderson
Bill Hearn*

BIRDS THAT LAY EGGS IN OTHER SPECIES NESTS

The other day, out on my deck railing, I saw a really small mother sparrow feeding a baby brown-headed cowbird that was about three times her size. Since I was looking for a good subject for this month's article, I thought brood parasitism might be of some interest.

Brood parasites are birds that lay their eggs in other birds' nests and rely on others to raise their young. Cowbirds and cuckoos, goldeneyes, and black-headed ducks are just some examples of this type of behavior in North America. Some ducks go even further than the black-headed duck by laying their eggs in the nest of other members of their own species.

Many brood parasites are specialists that only lay their eggs in the nests of a single host species or closely related species, but most use a wide variety of hosts. The brown-headed cowbird, for instance, has 221 known hosts. In case you are wondering, I have brown-headed cowbirds in my yard, so I may use them for examples when I have the occasion.



Brown-Headed Cowbird

Some of the birds that specialize in a particular host have developed egg coloration that mimics the eggs of their chosen host. Others imitate the size of the host eggs. In either case, they have developed characteristics that give their eggs the best chance of being accepted in the nest of their chosen host.

The intruder egg shells are often thicker than those of the host. In some instances, the host may be adroit enough to realize that an interloper has been placed into their nest and may try to remove or destroy the egg of the other species. This might be accomplished by pecking at the intruder shell until it is pierced or broken or physically removing the egg from the nest entirely by dropping it over the side. If the shell is thicker, it might be able to withstand these attacks. Some host species, when confronted with an intruder they can't remove, may abandon the nest entirely and start all over again at a new location. Other species, on recognizing that they have acquired a parasite, may build a mini prison around it and leave it to starve. Others build a whole new nest right on top of the parasitized one.

When the host species, for whatever reason, is unable to rid themselves of the intruder, they may find themselves ending up raising the offspring. This usually results when the intruder so closely mimics the host eggs that the host parents are unable to tell which belong to the intruders' and which are their own eggs.

Sometimes hosts are completely unaware that they have been parasitized. This most commonly happens when the host leaves the nest after laying one or two eggs of their own and an intruder comes along and lays several eggs among those of the host.

Brood parasitism is not limited to birds. It also occurs among fish, and insects. I had never heard of it before and have found it to be very interesting. Since we regularly have birds feeding their offspring on our deck, I'm going to have to pay more attention to the pairs to see if we have any other species raising parasite chicks.

Please let Emory know if there is any specific bird that you would like to see a future article written on. I welcome suggestions from you the readers.

Dave Reid

**TO SEE NEWSLETTER PHOTOS IN FULL COLOR
GO TO THE IPA WEBSITE: www.indianponds.org**

2021 IPA Annual Meeting

(continued from page 3)



**Town Manager
Mark Ellis**

After being introduced by President Anderson, Town Manager Mark Ellis spoke on the following issues:

Community relationships. Thanks for inviting me to this event in a wonderful location. Emory mentioned our history; over and over again, we try to build such partnerships with our neighbors. Even though we may sometimes go in different directions, whenever Emory, Bill Hearn, and Peter Atkinson come to my office, I know it will be serious and I need to have my facts in order! Our meetings are always productive, and such discussions with members of the community inform my daily meetings with Matt Levesque, who, in addition to his role as Precinct 10 councilor, is president of the Town Council and, hence, our legislative head (I head our administrative/municipal structure). Matt, Precinct 12 councilor Paula Schnepf, and I meet weekly.

Water quality is at the heart of why we all live on Cape Cod and what makes our community unique. Our fragile and precious piece of land is very different from when I grew up. The Town samples water quality regularly in our water bodies. As Emory mentioned, we did lose an individual from our Health Department and are looking to restructure roles to address deficiencies in freshwater lakes/ponds/streams. Currently, that remit is fragmented across Marine & Environmental Sciences, and the departments of Health, Conservation, and Public Works. To focus more on freshwater, Amber Unruh, who has a background in environmental sciences, was appointed senior manager of special projects with the DPW 18 months ago. Of the 100 ponds we're looking at in the Town, Mystic is among the top 10 priority; the top 3 are Shubaels Pond, Long Pond (Marstons Mills), and Lovells Pond.

We are developing a management plan for future pond treatments, which the Town Council supports; in fact, it's built into their mission statement. We encourage residents to continue working with us to conserve our precious freshwater resources; you know the situation best as you are here every day. Let us know about any change you observe, and if you feel that insufficient attention is being paid to an issue, please come directly to me. Next year, I would love to return with Amber and/or another member of the team to discuss further and mobilize efforts. To that end, I love your educational program idea; it's a huge opportunity to share information and experience. Across the Town, there are many boards and commissions comprising more than 290 people. I can introduce you to them and also to the environmental science program at Barnstable High School.

Wastewater management. We are moving very aggressively on the Town's 30-year, \$60 m comprehensive wastewater management plan. It spans a host of concerns and potential solutions—both traditional and innovative—to try and protect our water resources. While we may be focused on nutrients because regulators push us in that direction, other concerns include invasive species and hundreds of chemicals that we use every day which find their way into our water systems. We continually review and update the comprehensive plan (it spans a dozen or more major areas) as we lay out where we are today and determine where we want to be in 10, 20, 30 years. We assess community-wide impact any time we evaluate major infrastructure improvements such as the sewer system, and we don't want land use to run contrary to the overall plan.

Accessory dwelling units. Related to the comprehensive plan is population density. Town Council will meet this week to discuss accessory dwelling units—whether units within lots currently zoned for single family use could rent out a portion of the property to another user.



**Directors "Butch" Roberts and Emory Anderson
confer during the social hour.**

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2021 IPA Annual Meeting

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Cyanobacteria alerts. In answer to a member's question about cyanobacteria alerts given the IPA is no longer engaging APCC to test, the Town has contracted with APCC to continue to sample every week or at least every other week. APCC and Town of Barnstable alerts continue to be released (Health Department website); residents should let Amber know if they see any reporting glitches.

Massachusetts Covid-19 stimulus funds. In answer to a member's question about the direction of state Covid relief funds, the Town had prioritized: 1) costs associated with keeping government and government-provided services running during the public health crisis; 2) revenues lost as a result of directives from the governor; 3) support to first and frontline responders; 4) water, wastewater, broadband, and other—such as housing and economic development infrastructure. Of that fourth category allocation, the Town had directed “a lot” to water and wastewater.



Director Kathy Bryan and Town Council President Matt Levesque chatting.

Tap water quality. In answer to a member's question about tap water safety, C-O-MM has “very good quality water”. The Town has three water districts (COMM, Barnstable, and Cotuit) and one municipal district (Hyannis). Hyannis had an issue with PFAS, which had been addressed. Bottled water is not as well regulated or tested as the Town drinking water supply.

Pond clean up day. In answer to a member's question as to when the next pond clean-up might take place, “whenever you want [me and the DPW] at the Town ramp, we'll be there.”

Ells concluded by thanking the IPA for the invitation to address the meeting and for the great questions. He invited members to keep in touch. He will ask Amber Unruh to summarize the Town's new monitoring and management plan process for freshwater lakes and ponds and how the three Indian Ponds fit into that process, particularly Mystic Lake, for which the IPA has raised concerns about excess phosphorus and the need for another alum treatment.

Emory D. Anderson
Photos by Emory and Geri Anderson

STATUS OF CYANOBACTERIA MONITORING

In 2019 and 2020, the IPA collaborated with and funded the Association to Preserve Cape Cod (APCC) to monitoring cyanobacteria in the three Indian Ponds during the June–October period. In the first of those two years, the IPA did the actual bi-weekly collection of samples, with the subsequent analyses done by APCC personnel. Last year, because of COVID concerns, APCC staff both collected and analyzed the samples. This year, the IPA decided not to collaborate with APCC, but to rely on the Town of Barnstable for this monitoring.

This spring shortly before the Town's monitoring was to begin, we were informed that Karen Malkus of the Town's Health Division, who was responsible for all monitoring of Town ponds for cyanobacteria and other harmful bacteria, had decided to retire as of the end of May. We were later advised that, as an interim solution, the Town had contracted with APCC to continue the bi-weekly sampling and monitoring of the Town's ponds until a longer-term plan could be developed and implemented. Regular updates on the status of the ponds based on this monitoring can be found on the Town's Health Division website: <https://www.townofbarnstable.us/Cyanobacteria%2fBeach-Status---Water-Quality.pdf?>

According to the August 11 advisory from the Health Division, some ponds have been experiencing closures (e.g. Muddy/Crocker Pond and Long Pond in Marstons Mills), warnings (Lovell's Pond in Marstons Mills), or pet advisories (Schubael Pond in Marstons Mills) because of the level of cyanobacteria found in them. However, the three Indian Ponds, as of this writing, have been free of dangerous levels. However, late summer is typically when the Indian Ponds are most likely to be affected by such blooms.

Emory D. Anderson

HOW TO GET INVASIVE GRAY WILLOWS REMOVED

(Continued from page 8)

Bartlett Tree Experts were invited to join this effort when it became evident that professionals experienced in the removal and treatment of gray willows would be needed to effectively and legally address this complex problem. Bartlett had a long track record of scientific technology in the care of trees. Since gray willows grow in restricted areas that fall under the jurisdiction of the Commission, not only are permits required, but special procedures must be followed to properly and permanently remove this stubborn invasive. Cutting the willows without treating and killing the stumps only leads to a bigger problem as they will sprout and spread. Only licensed experts are permitted by law to administer the herbicide Rodeo (glyphosate, an herbicide that is safe to use near water, but which requires a licensed operator to apply it) to eradicate gray willows. In short, property owners should not attempt to remove gray willows without the assistance of experts.



Implementation of this plan began in July 2008. Owners of 66 waterfront properties containing gray willows signed up and had their trees removed. The project was continued in 2009 when an additional seven property owners signed up, as well as the Town, which had some gray willows removed from the former Danforth property on Mystic Lake. As of the end of 2009, 53% of the 138 waterfront properties had been cleared of gray willows, with 65 remaining to be done. The plan was advertised again for 2010, but no property owners signed up. In fall 2016, because of some renewed interest and some changes in property ownership, the IPA again collaborated with the Town's Conservation Division and Bartlett Tree Experts to obtain a new three-year group permit. Initially, 12 property owners expressed interest in having their gray willows removed, but, unfortunately, none of them followed through and signed contracts. Hence, no more trees were removed.

To recap, the IPA made a concerted effort over a ten-year period to encourage waterfront property owners to remove invasive gray willows by organizing a group permit authorized by the Town Conservation Commission and involving Bartlett Tree Experts to do the actual removals at homeowner expense. Because so many homeowners signed up in the first year of the initiative (2008), the cost for each homeowner was substantially reduced owing to the large volume. However, in subsequent years, with far fewer owners opting to sign up, the cost per homeowner was higher, which probably explains why so few signed up in 2009 and none in 2010 or in 2018.

The IPA directors feel that any additional attempts to obtain a group permit are not practical, and that any homeowners who still wish to have their gray willows removed will have to individually contact the Town's Conservation Division in order to obtain the necessary permit to have the trees cut and will have to engage a professional arborist licensed to apply the herbicide Rodeo to freshly cut stump(s) to prevent resprouting.

Emory D. Anderson

"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

