

THE IPA NEWSLETTER

Mystic Lake, Middle Pond, and Hamblin Pond

Fall 2004

A quarterly publication of the Indian Ponds Association, Inc.

Vol. 4 No. 4

POND STUDY MOVES FORWARD THANKS TO MEMBER CONTRIBUTIONS

The IPA pond study, described in detail in the Spring and Summer issues of *The IPA Newsletter*, is in full swing. Three of the six major tasks are nearly complete and a fourth task (phosphorus budget for each pond) was recently authorized by the Board of Directors at its October 12 meeting. Cape Cod Commission staff have nearly completed two tasks: 1) review of existing data and preparation of Quality Assurance Project Plan, and 2) preparation of water budget, delineation of watersheds, and assessment of impacts. A third task involving volunteer monitoring and sampling to collect vertical profiles of dissolved oxygen and temperature, visibility readings, and water samples for detailed laboratory nutrient analysis began in mid-May, continued at roughly two-week intervals into the fall, and will conclude with a final sampling in early November. The IPA is extremely grateful to the dedicated volunteers (Alexena Frazee, Susan and Chuck Sawyer, and David and Nancy Dawson) and their back-ups and assistants (Jim and Donna McGuire, Geri Anderson, Donna Lawson, Holly Hobart Creighton, and Michael Goldberg).

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This first-order assessment of the Indian Ponds is scheduled for completion by about May 2005.

Following an unsuccessful application to the U.S. Environmental Protection Agency for funding, the Board of Directors issued a fund-raising letter in late August to the residents of the IPA area. The generous response to this request has been heartwarming and gratifying. Over \$3,000 has been contributed to date from only about half of the IPA members. When added to the \$2,200 contributed earlier and to some reserve funds, the IPA is only about \$2,000 short of reaching the total goal for the study. Although another application for financial support is currently pending with the Cape Cod Foundation, the Board continues to encourage the other half of our membership to support this worthy cause. Those who have not yet made a tax-deductible contribution for the pond study are asked to please consider a generous donation.

Emory D. Anderson, PhD

YOUNG POND WATCHERS LEND A HAND

Several volunteers (Jane Smith, Karen Steele, and Geri Anderson) staffing the IPA table at Marstons Mills Village Day on September 12 spent the day chatting with people interested in learning about the work of our organization. Several young people from the Indian Lakes Estates, together with their parents, stopped to tell about their experience with submerged aquatic plants at the Middle Pond beach. Since it couldn't be certain what species of plants they had actually observed, a follow-up was made with the Town Conservation Commission. Later, some of the children and their parents met with Emory and Geri Anderson at the beach to provide more details. The good news is that no invasive plants were found by Commission staff, and the IPA has now enlisted the help of some young people to remain alert for strange plants. Since such plants have been introduced to and caused serious problems in Long Pond and Wequaquet Lake in Centerville, the possibility exists for their inadvertent transfer to the Indian Ponds. Boaters frequenting both groups of lakes are cautioned to thoroughly wash their boats, motors, and trailers after each outing.

A page in this and future newsletters will be devoted to topics that would hopefully be of interest to young people, and we look forward to hearing their comments and observations.

Geri Anderson



Amanda Kennedy (age 10), William Kennedy (age 8), and Rachael Worthen (age 10) point to the area of Middle Pond where they saw submerged aquatic plants.

IPA OFFICERS AND DIRECTORS – 2004-2005

Officers	Directors
Emory Anderson <i>President</i>	Curtis Clayman Paul Craig
Jim McGuire <i>Vice President</i>	Heinz Grotzke Jane Smith
Sheila Place <i>Clerk</i>	Karen Steele Rick Wheeler
Edward Schwarm <i>Treasurer</i>	Nancy Wong

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The IPA is a 501(c)(3) organization and a registered public charity. All dues and contributions are tax deductible.

This Newsletter is a forum for the exchange of ideas on matters germane to the IPA mission and, as such, the views expressed by authors of articles do not necessarily represent official IPA policy.

PRESIDENT'S LETTER



Emory Anderson

It's a great honor to have been elected President of the IPA by my colleagues on the Board of Directors to succeed outgoing President John Hansen. John and the other two outgoing Directors, Ted Elliott and Bruce McHenry, are owed a debt of gratitude for their years of service on the Board. Other newly elected officers are Vice President Jim McGuire, Treasurer Ed Schwarm, and Clerk Sheila Place.

Since the Annual Meeting, the Board has met twice: August 10 and October 12. I'm pleased to report that the current Board is extremely energetic and committed, with many new ideas on how to grow the Association and how to better fulfill our mission of preserving and protecting the natural environment and ecological systems of the Indian Ponds and the surrounding area. Our principal focus has been on the ongoing pond study, a fund-raising effort to cover the cost of the study, development of an annual budget, and retaining and expanding our membership. You will read more elsewhere about the pond study and our fund-raising effort, but let me repeat here how gratifying it has been to see the generous response from our members to our recent request for donations. In addition to over \$3,000 donated to help defray the cost of the study, 17 new members have joined the IPA as a result of our recent appeal letter, which was prepared and printed courtesy of Director Paul Craig and his wife LuAnn and mainly hand-delivered by Directors and others. This, coupled with over \$2,200 given by some members earlier in the summer, brings us closer to meeting the overall financial commitment associated with the pond study. However, we are still about \$2,000 short of our goal, so if you have not already responded to our recent fund-raising letter, please do so today.

I had the pleasure of meeting recently with Town Manager John Klimm and Tom Geiler, Director of the Town's Regulatory Services Department, to brief them on the status of our pond study and fund-raising effort and to talk about the mid-September algal bloom in Mystic Lake. The Town is very supportive and appreciative of the IPA's initiative on the pond study and is anxious to see the results next spring. Geiler pointed out that the Town continued, as mandated by law, to sample and test, on a weekly basis, the water at all public beaches on the Indian Ponds this past summer. Concern about this had been raised earlier in the year when it was learned that, due to Town budget reductions, Public Health Division staff responsibilities in this area had been greatly curtailed by the reassignment of Dr. Dale Saad to other duties.

We appreciate the support of our members. Please contact any member of the Board regarding suggestions, problems, or a willingness to volunteer your services in some capacity for the benefit of the IPA.

Emory D. Anderson, PhD

LETTERS TO THE EDITOR

Educating the Public on Lawn and Garden Care

Jeff and I are concerned that people are not educated about safer means of keeping their lawns and garden. Natural and organic is very easy, and so much safer on the environment. Our home and land are organic, no chemicals. Is there some way to start educating the public?

Nanse Peterson Taylor
Marstons Mills

Editor's response: The IPA has produced and distributed "A Resident's Guide to Living on the Indian Ponds", which addresses the issues you have raised. In addition, refer to previous issues of "The IPA Newsletter" for information on lawn care (www.indianponds.org or www.greencape.org).

Encouragement from Wequaquet Lake Protective Assn.

I want you to know that we at the Wequaquet Lake Protective Association (WLPA) fully enjoy and appreciate your IPA Newsletters. I read each one completely and with the Summer 2004 issue, took special interest in your article, by Ed Schwarm, on the operation of your herring run. I expect and hope as well that IPA is receiving and enjoying our WLPA newsletters. I note that we also had a very successful upstream migration of herring this year and it was with great pleasure that I read your praises of the Department of Natural Resources (Doug Kalweit and his staff) for their outstanding work and management of your herring run. WLPA as well strongly supports the policies of DNR as their performance continues to focus on that which is best for our pre-

Continued on page 3

ANNUAL MEETING UPDATE

The Annual Meeting of the Indian Ponds Association held Sunday July 11 at the home of Ted Elliott was attended by approximately 35-40 members and guests. Special guests included Town Manager John Klimm, Town Councillors Leah Curtis and Jan Barton, and Marstons Mills Postmaster Mary Beth O'Brien. President John Hansen, in his welcoming remarks, drew attention to the many accomplishments of the IPA in the last several years, including advocating for the Town's acquisition of the Cape Cod airfield property, and the continued need for the IPA to expand its educational efforts relative to safeguarding the environmental quality of the Indian Ponds.



John Klimm, Jan Barton, and Leah Curtis accepting U.S. Postal Service award from Mary Beth O'Brien.

The treasurer's report showed an ending balance of \$5,169. Brief reports were given on the status of the airfield, the Middle Pond herring run and its renovation, and the pond study being undertaken in collaboration with the Cape Cod Commission and the Town. Director Jim McGuire summarized the views of residents on the future use of the 23.5 acres of recently purchased Town land on Mystic Lake, pointing out that the predominant preference was for it to remain unchanged as a bird and wildlife refuge. Klimm, Curtis, and Barton reassured the IPA that its views, as well as those of relevant residential associations and the Marstons Mills Village Association, would be actively sought by the Town.

A revision to Article I of the IPA By-laws was approved. The change approved two categories of membership, the former holding voting and office-holding rights and the latter with

non-voting status: 1) Resident Members (property owners within the geographical bounds of the IPA) and 2) Friends of the IPA or FIPA (individuals living anywhere else).

Six individuals were elected or re-elected to the Board of Directors. New Directors included Heinz Grotzke, Jane Smith, and Nancy Wong. Re-elected Directors included Emory Anderson, Sheila Place, and Ed Schwarm. Retiring Directors included Ted Elliott, John Hansen, and Bruce McHenry.

Invited speaker John Klimm spoke about activities associated with the Town's purchase of the Cape Cod airfield property and the helpful role played by the IPA. He complimented the IPA for its community efforts

and expressed appreciation for the dedicated volunteers working on behalf of the IPA. President John Hansen presented Klimm with an inscribed plaque thanking him for his effective work in preserving the airfield. Marstons Mills Postmaster Mary Beth O'Brien presented Klimm and Councillors Curtis and Barton with a framed U.S. Postal Service commemorative stamp display of the first flight by the Wright brothers in recognition of the Town's saving the airfield. Vice President Emory Anderson thanked outgoing President Hansen for his dedicated service to the IPA and presented him with a photo plaque inscribed with a poetic message.

Following adjournment, participants enjoyed a social hour sponsored by the Board of Directors.

Emory D. Anderson, PhD

LETTERS TO THE EDITOR *(continued from page 2)*

cious resources, namely Wequaquet Lake, Long Pond, and the herring run. It is important that IPA and WLPA continue to let DNR employees know that we very much appreciate their dedication to their assigned mission. WLPA's membership continues to grow and already in 2004 we have 250 family memberships and expect a new record high membership this year. I note this because I think it is very important to let DNR know the strength of the residential support for their work. We have, as I well expect that you may have in the Indian Ponds area, a very small group of self-centered residents that continually strive to criticize DNR for not managing the herring run to their personal satisfaction; and they will say or do just about anything in attempts to get their way. Politics has no place in managing our natural resources and with both IPA and WLPA working closely and communicating with DNR, we can help them to perform, free from outside harassment.

Jim Childs
Centerville

EDUCATIONAL EXHIBITS AT IPA ANNUAL MEETING

Special thanks are extended to several individuals and their organizations for taking the time to set up and staff educational exhibits at the IPA Annual Meeting. These included Susan Phelan, Director, and Stephen Seymour of the Cape Alliance for Pesticide Education, and Glenn Santos, Supervisor of the Town's Solid Waste Division.

Information on the Cape Alliance for Pesticide Education can be found on their website (www.greencape.org).

Information about recycling mercury-containing products, rechargeable batteries, cell phones, books, and other items, as well as the Town's procedures on general recycling can be found at the Solid Waste Division's website (www.town.barnstable.ma.us/tob02/Depts/PublicWorks/SolidWaste/default.asp).

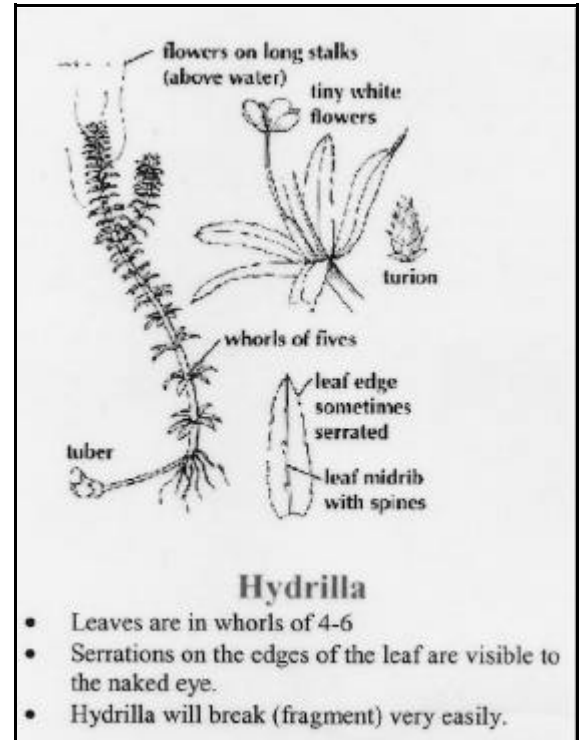
YOUNG PONDWATCHER'S – INFORMATION PAGE

HYDRILLA

Hydrilla is a submerged plant that was brought to Florida in the 1950s from Asia to grow in aquariums. Back then hydrilla was planted in canals and rivers and picked to sell in pet stores. Hydrilla can grow more than an inch each day and can fill water bodies that are as deep as 15 to 20 feet in only one year. When it reaches the water surface, hydrilla grows across the top of the water forming tangled mats of plants. These mats wrap around propellers and make boating almost impossible. They also slow water flow and jam against bridges and dams, which can cause flooding. Hydrilla mats form a cover over water bodies, like an umbrella, that will not allow light or oxygen into the water, killing native plants, fish and other wildlife.

Hydrilla does not form seeds. New plants sprout from the roots and from broken stems. Each piece of stem can form its own roots and start a new plant. Hydrilla also forms buds on the stems and roots. The root buds, called tubers, can lie in the sand or mud for years before they sprout. Once hydrilla makes tubers, it is almost impossible to eradicate. Ecosystem managers use biological, mechanical, and physical controls along with herbicides to control hydrilla so it causes fewer problems. Because hydrilla can cause so many problems there are now strict laws against owning or planting this prohibited plant in the United States.

"Understanding Invasive Aquatic Weeds" published by the Aquatic Plant Management Society, Inc.



Taken from "Weed Watcher Program Invasive Species Guide" MA Department of Environmental Management.

TREATMENT FOR HYDRILLA AND FANWORT ON CAPE COD

The treatment of Long Pond in Centerville to control the invasive plant hydrilla continues this fall. Observers reported a noticeable reduction of hydrilla in the pond this season. Prohibition on public boat launching at the Town ways to water at Long Pond remains in force however, as preventing the spread of this plant to other ponds remains highest priority. Of note: The MA Lakes and Ponds Program recently provided \$5,000 in funding to assist the Town with this summer's treatment.

At Wequaquet Lake, divers will soon be hand pulling fanwort (another invasive plant) from the upper reaches of Gooseberry Cove. This will mark the second time that this physical method of control has been used. Elsewhere in Gooseberry Cove, a larger and more robust fanwort patch will likely require herbicide control next spring under the existing conservation permit.

The Barnstable Bulletin - October 2004

FEWER FROGS?

Have you noticed fewer frogs, particularly bullfrogs, around the Indian Ponds lately? Recent news stories have reported a worsening decline worldwide in frogs and other amphibians. Scientists have suggested various causes for this decline, including loss of habitat, global climate change, pesticides, and disease. What do you think is responsible for the decline in our area?



Send your ideas to: info@indianponds.org or IPA, P.O. Box 383, Marstons Mills, MA 02648

COYOTE COUNT

Have you seen coyotes in your neighborhood? Have you heard them howling at night? Are there more (or less) coyotes in our area now than there were a few years ago? Why do they howl and what do they eat? Let us know your answers to these questions and any other comments you might have about these interesting animals.



CHILDHOOD MEMORIES AND ENVIRONMENTAL NIGHTMARES

I'd like to share some childhood memories and environmental nightmares of growing up on Clear Lake – also known as Grigson's and Hamblin Pond!

Over the past months, much has been shared with regard to the efforts of the IPA to mount a pond water study program working with the Cape Cod Commission. Many of you have generously contributed to the funding of this extremely important effort. Thank you so much! I'd like to share a few reflections of the history of one of our ponds in light of our responsibility for their preservation.

First of all, I'm sure that we had better clarify this "Clear Lake" and Grigson's Pond stuff. Well, the fact of the matter is that those were the early names of Hamblin Pond!

Our three ponds framed a portion of my early life and have grown to be a core part as time went by. I first encountered our Indian Ponds back in the mid-1930s with my father's second marriage to a wonderful lady, Emma Gale "June" Whittemore. She was the owner of an early 19th century home on Route 149 that would become known as the Burgess House. It was a great experience with weekend commutes from Cambridge and a co-ed summer camp that was one of the most wonderful places to be. We had a marvelous time with the boys camped out by the pond and the girls in the old barn. We did everything – swimming, boating, hiking, horseback riding, sports, and even flew model airplanes, with a trip to Monomoy at the end of the summer for good behavior! And, then there were those walks to the Cash Market with the inevitable haz-



Historic Burgess House on Route 149 in Marstons Mills; built ca 1823.

ing of the youngsters, that's me, as we went by the cemetery and the shed which housed the horse-drawn hearse!

In this rather halcyon and bucolic existence, there was a rather interesting phenomenon. Our Grigson's Pond had a flourishing duck farm that started in 1931 and would continue through 1955! Called the "Clear Lake Duck Farm" – a name that might well cause a present day environmentalist to scream in protest – the operation was a boon to Marstons Mills. To the campers, it was a constant source of amusement and interest. I can't recall that anyone ever got sick. Little did we understand, however, what was unfolding around us regarding the effect of the Duck Farm on the pond itself.

Yes, with the fecal coliform in abundant supply, the *E. coli* bacteria levels exploded. The nitrification process accelerated, producing algal blooms, a diminution of the oxygen in the water, and a concomitant reduction in aquatic life. The eutrophication of the pond quickened. Eventually, the Clear Lake Duck Farm closed and the Town of Barnstable initiated numerous efforts to restore the pond's quality. That is all history now, however, our responsibility for our ponds and our environment is clearer and more urgent than ever before. Thanks for all that you are doing to preserve what we share.

Rick Wheeler

Editor's Note: See related story "Hamblin Pond Restoration Success Story" by Bruce McHenry in the Spring 2003 issue of The IPA Newsletter (www.indianponds.org).

COASTSWEEP 2004

IPA volunteers helped in the September 18 cleanup of the Indian Pond public beaches as part of COASTSWEEP 2004 coordinated in Barnstable by Fred Stepanis of the Town's Conservation Division. Geri Anderson, Clark Buchanan, Ted Elliott, and Jim McGuire collected about 60 pounds of trash.

Organized by the Massachusetts Office of Coastal Zone Management, COASTSWEEP typically engages between 4,000 to 5,000 volunteers in the removal of marine debris from a diversity of coastal ecosystems. The thousands of people who participate each year do their part by collecting bags of trash and debris, and recording their findings onto data cards. The data collected during the cleanups are sent to the Ocean Conservancy and entered into a massive marine debris database. This information is then analyzed and used to identify the sources of marine debris, which helps to prevent the problem in the future.

SMEDLEY

by Gordon Nelson



SEPTEMBER ALGAL BLOOM IN MYSTIC LAKE

A number of pondwatchers at the northeast end of Mystic Lake all reported seeing floating masses of green algae during the second week of September. These algal masses resembled green cotton candy and were 2-3 feet wide and 4-8 feet long. Some were several feet deep, with a long tail extending down into the water. Photographs were taken of several of these masses, one of which is shown here. Other color photos may be seen on the IPA website (www.indianponds.org). Various forms of this algae were evident in Mystic Lake until late October.



Algal mass on Mystic Lake being examined.

Ed Eichner of the Cape Cod Commission's Water Resources Office explained that during late summer, ponds that thermally stratify (cold water on the bottom separated from warmer waters on top) often develop anoxic (low to no oxygen) conditions in the bottom waters. When anoxic conditions develop, phosphorus bound up in the bottom sediments is released into the overlying water. If these anoxic conditions extend up to the bottom of the upper, warmer waters, released phosphorus has a chance to leak across the warm/cold barrier and prompt algal blooms. This scenario is enhanced during windy conditions because winds destabilize the warm/cold barrier and make it more "leaky". Dissolved oxygen and temperature readings in Mystic Lake taken on September 7 by volunteer samplers participating in the IPA pond study indicated low oxygen conditions impacting the lower warm waters. When this happens, conditions for an algal bloom are optimal.

Geri Anderson

SEWAGE TREATMENT: ONE ANSWER TO POLLUTION

This is another in a series of articles designed to suggest ways to improve our environment in the face of increasing land use. Although prevention of pollution is the best first-order approach to preserving the environment and our lakes, and that, whimsically, one might at one time have considered making Cape Cod a national park, this will not happen.

Inevitably, increasing population, as in Hyannis, has led to sewage treatment as witnessed on Bearse's Way, where leeching fields are located. As nearly every lot around the Indian Ponds is being built upon, septic systems are overloading the water table, leading to algal blooms in Mystic Lake and taller submerged aquatic plants in Middle Pond, as this swimmer and your author have noted this summer.

With the advent of neighborhood sewage treatment plants becoming economically viable, thereby eliminating septic systems, a discussion is in order. From a cost perspective, considering that all homeowners hooked up to a neighborhood sewage system would forever be freed from the excessive costs of Title 5 when selling a home, this approach is quite attractive from an environmental and financial point of view.

Modern sewage treatment at primary, secondary, and tertiary levels will process wastewater to drinking water quality. Primary treatment removes most of the solids from sewage. Secondary treatment renders the outfall biologically safe. Tertiary treatment removes salts and chemicals.

In primary treatment, chemists monitor for industrial chemicals such as heavy metals and toxic chemicals. The sewage next goes through a bar grid to remove foreign objects. Next is a grit settling tank followed by an Imhof sedimentation tank where sewage separates into sludge and waste water. At this

point, if there is no further treatment, the water goes to outfall, and the sludge goes to farms, provided there is no toxic waste.

Secondary treatment removes bacteria and offensive odors from the sludge and water. Bacteria are used to consume the available nutrients and organic compounds. What remains are inorganic salts, carbon dioxide, and water. Space constraints limit detailed discussion, but suffice it to say, reduced volume sludge is sold to farmers. Methane may be produced and can be used to generate power. Wastewater at this level has many bacteria and dissolved solids. Hydrogen peroxide, ultraviolet light, and chlorine are used to kill remaining viruses and decontaminate odorous organic materials. This water can be used to water plants, but is unsafe to drink and is discharged to outfall.

Tertiary treatment, which is our goal, removes nitrates and phosphates. These are the chemicals that cause eutrophication and destroy our lake via algal blooms. Treatment plants use reverse osmosis, pressure membrane purification, and distillation. One of the first tertiary treatment plants is used by South Lake Tahoe, California and Stateline, Nevada to protect Lake Tahoe.

Another inventive method is to run wastewater through an artificial swamp called a "living machine" or "constructed wetland." The swamp organisms consider nitrates and phosphates to be nutrients. The resulting effluent water from either of these methods is unpolluted and potable.

A future article will discuss affordable neighborhood sewage treatment plants. For further reading on this subject, go to the following website: www.sas.org.uk/campaign/treatment.asp.

Curt Clayman, MD