THE IPA NEWSLETTER

Mystic Lake, Middle Pond, and Hamblin Pond

Summer 2006 A quarterly publication of the Indian Ponds Association, Inc. Vol. 6 No.3

TOWN TO TREAT MYSTIC LAKE

Town Manager John Klimm, at a meeting at Town Hall on June 27 with Lindsey Counsell (Director of Environmental Services), Rob Gatewood (Conservation Division Director), and Emory Anderson (IPA President), promised that the Town will remediate the problem of excess phosphorus in Mystic Lake. The likely course of action will be an alum treatment. However, the earliest this can be done is probably the summer of 2008. The first step would be a design and permitting phase followed by implementation (treatment) and post-treatment monitoring (10 years) phases. Each phase will require approval and funding by the Town Council. The total cost for all three phases is estimated at about $250,000.

The IPA stands ready to assist the Town in applying for grant funds to help defray this cost. Precinct 10 Town Councilor Jan Barton has proposed that Town-wide groups like the IPA join forces to advocate for a comprehensive review and prioritization of Town water quality problems. While this proposal has merit and is supported, in general, by the IPA, we feel that our proactive pond study, with its results and recommendations, should place Mystic Lake near the top of a priority list for action.

IS HAMBLIN POND TOWN BEACH SHRINKING?

The Town Beach at Hamblin Pond is beautiful this year; the water is crystal clear, thanks to the 1995 alum treatment, and the sandy beach is clean and ideal for young children. However, a new concern is the presence of extensive vegetation, including three non-native invasive plants (see related articles on pages 3, 4, and 5), that has markedly reduced the size of the beach. Kristina Hazard, a Centerville resident who was a swimming instructor and lifeguard at Hamblin Pond in the late 1980s, remembers that a large area east of the current beach was where she gave swimming lessons. That area is no longer open to swimming because plants such as the common reed (*Phragmites*), gray willow, and purple loosestrife, as well as poison ivy, have taken over.

The IPA is concerned that these invasive plants, not only in Hamblin Pond, but elsewhere in the Indian Ponds will, if left uncontrolled, continue to take over valuable shorelines and crowd out native plant species. Accordingly, we will be encouraging the Town to authorize control measures for these invasives to reclaim the areas overgrown at the Hamblin Town Beach and to reduce or remove these plants from other areas in the Indian Ponds.

Former swimming instructor and lifeguard, Kristina Hazard, with her son, Quinton, standing in front of what she recalls as an open, sandy beach at Hamblin Pond Town Beach in the late 1980s that has now been taken over by invasive plants.

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IPA ANNUAL MEETING

More than 40 members and guests attended the 49th Annual Meeting of the Indian Ponds Association on Sunday July 16. The meeting was again held in the lovely home of Lewis and Nancy Solomon overlooking Mystic Lake, and chairs were again provided by John and Deirdre Kayajan.

The half-hour business meeting included the approval of minutes of the 2005 Annual Meeting and the treasurer's report, changes to several By-laws, election of Directors, and the President's Report. New Directors elected to two-year terms were Jon Halpert and Holly Hobart. Incumbent Directors re-elected to two-year terms were Emory Anderson, Jane Smith, and Nancy Wong.

President Emory Anderson summarized developments with the pond study report that followed the presentation of the study's preliminary results at the 2005 Annual Meeting. The final report was completed in March, is now available on the IPA website [www.indianponds.org], and has been presented to Town officials and others. He noted the increased publicity for the IPA in the past year achieved by several radio interviews and pond study presentations at various community forums. He also drew attention to several clean-up activities on the Indian Ponds [see articles on debris (page 6) and purple loosestrife (page 3) removal]. He announced that IPA membership is at an all-time high of about 150 households. Of this number, 20 represent new memberships. In conclusion, he thanked outgoing Directors Heinz Grotzke and Sheila Place for their service.

The program portion of the meeting consisted of a question-and-answer session with a panel of invited guests. The guests included Hank Farnham, Town Council President; Janice Barton, Precinct 10 Councilor; Lindsey Counsell, Executive Director of Three Bays Preservation, Inc. and Director of Environmental Services for the Town; and Professor Brian Howes, Director of the UMass Dartmouth SMAST Coastal Systems Program and Director of the Massachusetts Estuaries Project. Comments centered on the condition of Mystic Lake, water quality issues in general in the Town, a possible alum treatment for Mystic Lake to lock up the excessive phosphorus in the lake's bottom sediments, financial issues associated with funding such a treatment, the need for the IPA to be an advocate at the Town level for the treatment of Mystic Lake, and Town plans for expansion of its present sewer system. (Some of the points raised in this session are addressed in the lead article in this issue on page 1).

The social hour following the program featured fine wines donated by Cotuit Liquors and various snacks and tidbits provided by Stop & Shop and IPA Directors.

NEW IPA OFFICERS

At a brief meeting of the new Board of Directors immediately after the Annual Meeting, the following officers were selected for 2006–2007: Emory Anderson (President), Holly Hobart (Vice President), Richard Wheeler (Clerk), and Nancy Wong (Treasurer).

President Emory Anderson directs a question to the panel of invited guests. Left to right: Hank Farnham, Janice Barton, Lindsey Counsell, and Brian Howes.

RIDDING INDIAN PONDS OF PURPLE LOOSESTRIFE

Armed with garden forks and plastic bags and attired mainly in shorts, a civic-minded group of 14 volunteers attacked the infestation of purple loosestrife plants at the south end of Hamblin Pond on an overcast Saturday July 22. Battling poison ivy and stubborn root masses, four hours later these folks had pulled enough plants to fill 64 black plastic bags (40 of the 33-gal size and 24 of the 55-gal size).

Over the next week and working an hour or two at a time, smaller groups removed similar plants from Middle Pond, filling 29 large (55-gal size) and two small (33-gal size) bags. Additional purple loosestrife plants in Hamblin Pond were pulled in early August.

The bags containing purple loosestrife were taken to the Town's Solid Waste Transfer Station in Marstons Mills for eventual incineration. The bulk of these were transported by Solid Waste Division personnel, while the remainder were taken by IPA volunteers.

IPA volunteers participating in this important removal activity included (in alphabetical order) Emory and Geri Anderson, Ken Creighton and Holly Hobart Creighton, John and Kathy Dowling, Kevin and Judy Galvin, Kevin Kavanagh, Jim McGuire, Susan and Chuck Sawyer, Don and Mary Smith, Rick Wheeler, and Nancy Wong. Russ Keyes, from the Town's Natural Resources Division, provided assistance on July 22 at Hamblin Pond.

The removal of this invasive plant was made possible by the efforts of Rob Gatewood of the Town's Conservation Division. Rob secured a three-year permit from the Town Conservation Commission and provided advice and some supplies. Consequently, all three Indian Ponds will be closely monitored over the next two years to see if any purple loosestrife reappears in areas where it was pulled this year. If so, efforts will be organized to remove any new plants.

Plans also call for pulling the purple loosestrife from Mill Pond, where many plants were observed last year. However, at the time when plants were pulled from Hamblin and Middle Ponds, comparable plants were not readily evident around Mill Pond because of the extensive growth of other vegetation along the shore. As soon as any purple loosestrife plants are seen there, steps will be taken to ensure their removal.

Volunteers meet on July 15 to plan for purple loosestrife removal.

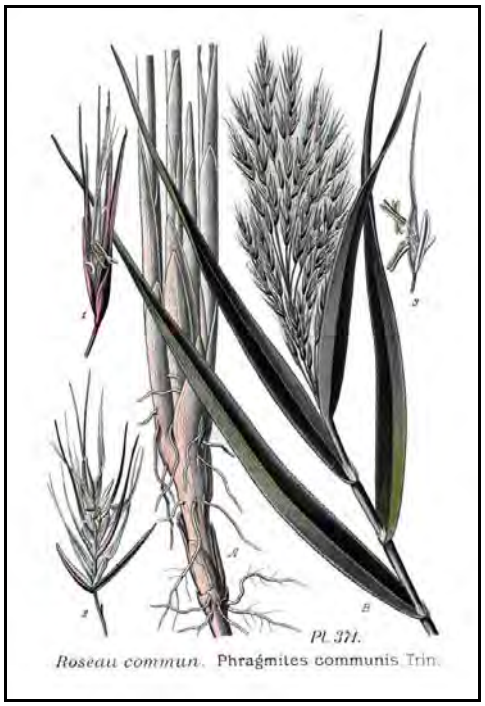
Former IPA President Kevin Kavanagh, along with Jane Smith, Judy Galvin, and Kathy Dowling, hard at work pulling purple loosestrife at the Hamblin Pond Town Beach.

Weary volunteers admiring the bags of purple loosestrife pulled near the Hamblin Pond Town Beach.

MORE INVASIVE PLANTS

Those of us who rolled up our sleeves and got our feet wet pulling purple loosestrife, and are still scratching the poison ivy we caught, may not be especially pleased to learn that there are two more invasive plants on the shores of the Indian Ponds, growing, spreading, and crowding out the native plant communities. The names of these two invaders are *Phragmites*, the common reed, and *Salix cinerea*, the European gray willow.

***Phragmites,* the common reed**, a type of grass, lives on every continent except Antarctica and is thought to have the widest distribution of any flowering plant. It goes by many different names, all of which refer to a perennial reed that grows up to 20 feet high in salt and freshwater marshes and wetlands and on the shores of ponds and streams. The stems are woody and hollow. The feathery flowers bloom from July to September. *Phragmites* spreads by wind-carried seeds, but also by rhizomes, surface and underground runners that rapidly expand a colony.



Drawing of Phragmites leaves, stem, and flower.

Our native *Phragmites* is not considered invasive, but it is thought that hybridization has occurred in recent years between the native and one or more introduced species. The progeny of this interbreeding have become an invasive nightmare, crowding out all other vegetation until nothing is left but a dense stand of reeds. This monocrop does not provide shelter, food, or nesting material for native birds and animals,

Dense stand of Phragmites immediately east of the Hamblin Pond Town Beach.

and, if unchecked, could hasten the extinction of native plants, such as cattails, by depriving them of habitat.

Phragmites has been put to many uses around the world. It has been harvested for building houses and boats, thatching roofs, for making weapons such as hunting spears, for baskets, mats, clothing, jewelry, musical instruments, and paper.

Methods of control differ according to how large a stand needs to be restrained. Every conceivable method of eradication has been tried. One of the more successful approaches, for small stands, is cutting the reeds down with hedge shears or a weed-whacker at the end of July, before food is stored in the rhizomes, and then repeating as necessary for the next year or two until no more sprouting is observed.

The Nature Conservancy says, “many native populations of *phragmites* are ‘benign’ and pose little or no threat to other species and should be left intact.” In any case, if you spot *Phragmites*, you should keep it under close surveillance until it makes its intentions clear.

Additional stand of Phragmites further east of the Hamblin Pond Town Beach.

The European gray willow, *Salix cinerea*, is a shrub or small tree that can be seen growing on the banks of all three of the Indian Ponds. From a boat, it is easy to pick out on the shoreline because of its blue-gray foliage.

Originally imported for the "reclamation" of wet areas, the gray willow grows in nearly any type of soil, including very acidic or saline. It can grow standing in water and even tolerates being permanently waterlogged. It can be found in brackish wetlands, bogs, and on the banks of ponds and streams. Because it is an introduced species, it offers little in the way of food or shelter to native organisms.

Gray willow leaves and stem.

Drawing of gray willow leaves, stem, and flowers.

The stems of the gray willow are covered with fine hairs for the first year of growth. The leaves are green on top and "gray-hairy" beneath, with finely-toothed margins. It flowers in April or May and is pollinated by bees and other insects.

The gray willow's seeds will germinate in water, and tiny seedlings can survive under water for up to a month. It also disperses by rooting from the stems. Wherever a branch touches the ground, it will take root. If the tree is cut down, the stump will sprout branches, and any part of a branch that is left on or under the ground will sprout roots, which makes eradication a struggle.

Anyone interested in finding methods of controlling gray willow or *Phragmites* might want to check out The Nature Conservancy's enormous data base on invasive plants at http://tncweeds.ucdavis.edu/esadocs.html.

The IPA plans to work closely with the Town Conservation Division and Conservation Commission regarding appropriate control and eradication measures for these invasives.

Holly Hobart

Gray willow in Mystic Lake. Limbs bend over into the water, sprout roots, and gradually extend the shoreline farther into lake.

Dense stand of gray willow in the northeast cove of Mystic Lake.

SMEDLEY **by Gordon Nelson**

SCHWARM MEMORIAL SCHOLARSHIP RECIPIENT

The first recipient of the Schwarm Memorial Scholarship is Michael Crowley, son of Dan and Jane Crowley of 359 Regency Drive in Marstons Mills. Michael was announced as the winner of the $500 scholarship at the Barnstable High School Awards Banquet on May 15. He plans to enroll as a freshman this fall at Holy Cross and will major in economics-accounting.

The Schwarm Memorial Scholarship was established last year in memory of Edward Schwarm, a former IPA Director and officer who died in May 2005. Donations to this scholarship fund are most welcome.

Michael Crowley

POND SAMPLING CONTINUES

IPA volunteers are continuing to monitor water quality in the three Indian Ponds this summer. Measurements of dissolved oxygen and temperature from the surface to the bottom and of water clarity using a Secchi disk are taken every two weeks. On four of the nine sampling dates, water samples from just below the surface and at a depth of 2 meters (6.5 ft) are also collected for analysis of pH, alkalinity, chlorophyll *a*, total phosphorus, and total nitrogen.

This sampling not only monitors the "pulse" of our ponds, but provides input data to the Massachusetts Estuaries Project and the 2006 PALS (Pond and Lake Stewardship) program, and is done in collaboration with the Town of Barnstable, UMass Dartmouth, and the Cape Cod Commission.

Sampling dates in 2006 are June 6, June 20, July 6, July 18, August 2, August 15, August 31, September 12, and September 26.

Secchi disk readings for the three ponds are consistent in showing that Mystic Lake has, by far, the poorest clarity because of the suspended algal particles in the water. Average visibility readings for the July and August 2 testings were 18.9 ft for Hamblin Pond, 15.7 ft for Middle Pond, and only 9.4 ft for Mystic Lake.

IPA water samplers include Dave and Nancy Dawson, Alex Frazee, Steve Paglierani, Susan Sawyer, Holly Hobart, Jim and Donna McGuire, Don and Judy Houghton, Emory and Geri Anderson, and, for the first time, two high school students: Mary Catherine Maurer and Sarah Schmidt.

DERELICT BOAT AND DEBRIS REMOVAL

On Saturday May 27 of Memorial Day weekend, a group of 10 volunteers, under the leadership of IPA Director Bob Kohl, gathered derelict boats and other debris that had washed up along the shores of Mystic Lake and Middle Pond. Working with four outboard-powered boats, they hauled or towed abandoned boats, boat parts, wooden docks, dock parts, rafts, plastic floats, and other assorted items to the Town landings of the two ponds. Several days later, personnel from the Town's Highway Division and Solid Waste Division removed and disposed of all these items. The IPA is very appreciative of the fine cooperation and assistance given by the Town on this project.

Volunteers and their boats assembled to begin the debris clean-up.

Those assisting in the clean-up project were Don and Judy Houghton, Ken Creighton and Holly Hobart, Emory and Geri Anderson, Jim McGuire, Dave Dawson, and Bob and Jacob Kohl.

The amount of discarded and lost boats, docks, floats, and assorted items that had to be removed is regrettable. Waterfront residents and others who use the Indian Ponds are urged to register/label their boats, docks, and moorings to facilitate locating owners of lost items.

Volunteers posing at the Mystic Lake Town landing with debris they collected.

BUMPER CROP OF WATERWEED IN MYSTIC LAKE

Strong southwest winds for a number of days in late June and early July uprooted or broke off huge quantities of submerged aquatic plants and deposited them along the northeast shore of Mystic Lake. Such large amounts of plants initially aroused concern that they might be some type of invasive species such as hydrilla, fanwort, or milfoil. However, upon closer examination, these plants turned out to be primarily waterweed (*Elodea nuttallii)*, a common submerged plant present in most Massachusetts ponds and lakes.

These huge floating mats of waterweed, blown against the shore and, in some places, extending 5-10 ft into the lake, constituted an immediate nuisance for waterfront residents. Some long-time residents reported having never seen such large amounts of these plants uprooted by winds. Some, as shown in the photo, opted to remove the plants from around their boats, floats, and docks and pile them on shore for use as compost. The floating weeds also attracted large numbers of ducks and Canada geese that fed on the weeds and contributed yet more phosphorus via their droppings.

While seemingly large, the quantities of waterweed that broke loose from wind action were probably only a fraction of those growing in Mystic Lake. The increased presence of submerged plants in the lake in recent years is supported by observations of long-time residents. Excessive levels of phosphorus, as confirmed by the recent pond study, are responsible for the growth of these plants.

IPA President Emory Anderson, with help from his granddaughters Betsy and Kristina Norgard, stacks waterweed before moving it onshore to a compost pile.

MARSTONS MILLS VILLAGE DAY

The 17th annual Marstons Mills Village Day will be held on Sunday, September 10, 2006. The road race starts at 11:00 am and Village Day follows at noon. Our theme this year centers around Marstons Mills. Main Street will be closed to vehicle traffic so that Village Day attendees can enjoy the multitude of activities that are planned along the road. For the children, there will be a moon walk, marvelous face painting, a magical balloon lady, multi-color spin art, martial arts demonstration, activity tables, and much, much more all to the beat of the music played by our local disc jockey. The miniature horse rides (ok – they are ponies) are always a hit with the kids. For the hungry – munch on hot dogs or hamburgers and a magnificent dessert surprise. Yummy! Our 50/50 raffle includes many prizes from local merchants with proceeds going directly to our Marstons Mills Village Association Scholarship Fund awarded to Barnstable High School students from Marstons Mills.

Visit www.marstonsmills.org for more information and to print your application for the road race. If you would like to volunteer to help with Village Day, call Co-Chair Donna Lawson (508-420-9480). Meet me in Marstons Mills on Sunday September 10.

Debbie Lavoie, Marstons Mills Village Day Co-Chair

DID YOU KNOW?

The Town of Barnstable has 64 freshwater ponds and lakes.

CAPE COD AIRFIELD FLY-IN

A fly-in will be held at the Cape Cod Airfield on Saturday August 19 from 12 noon to 6 pm. Classic aircraft, automobiles, and radio-controlled planes will be on display. Refreshments will be on sale during the afternoon. Admission is free, but a $5 per "carload" donation will be requested to help defray costs. The event is sponsored by Mills Air Service, Inc., with help provided by the local chapter of the Experimental Aircraft Assn. For further information, contact Chris Siderwicz (508-428-8732), owner of Mills Air Service and Airfield Manager.

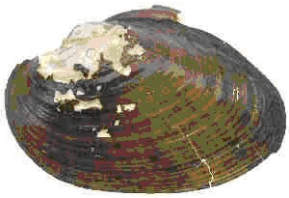
ENDANGERED SPECIES IN THE INDIAN PONDS

BUT I THOUGHT THEY WERE CLAMS...

Everyone who has spent time in or around the Indian Ponds has noticed the presence of creatures that resemble clams, but are actually freshwater mussels. Soft-bodied animals enclosed by two shells, freshwater mussels inhabit streams, rivers, ponds, and lakes throughout North America. They are, as a group, considered to be among the most endangered organisms on the continent. Of the eleven known species of freshwater mussel in Massachusetts, seven are protected by law. Of these, three live in one or more of the Indian Ponds: the tidewater mucket, the triangle floater, and the eastern pond mussel.

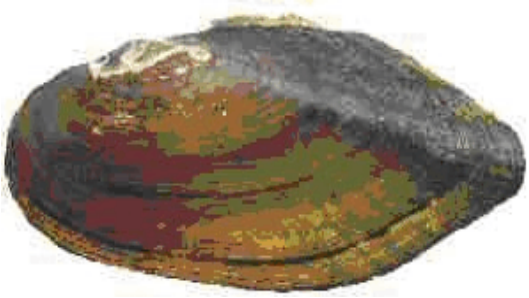
Tidewater mucket, up to 3".

All of the freshwater mussels spend their adult lives partially buried in sand or gravel, where they suck water into their bodies, filter out minute particles of food, then discharge the filtered water. In this way, they play an important role in the health of pond or stream ecosystems by keeping the water clear and by eating algae. They also serve as food for many kinds of fish and mammals. Raccoons especially appreciate a feast of mussels, but, fortunately for the mussels, people who have tried them don't like them at all.



Triangle floater, up to 3".

Every freshwater mussel is either a male or a female. In the fall, the male mussels release sperm into the water and the females filter it into their gills, where their eggs are fertilized and the larval mussels, called *glochidia*, develop over the winter. In the spring, the female releases the microscopic larvae into the water, where they must immediately find a fish. Attaching themselves to the fins or the gills of the fish, they develop for several weeks before dropping to the bottom, where they will spend the rest of their lives. Some species of mussel will only attach to anadromous fish (that live in the sea and migrate to freshwater to spawn) or to one particular species of fish, such as a trout or alewife, and if the kind of fish it requires is not present, the mussel dies. Other species of mussel are not so particular, and any fish will do. Mussels start reproducing at about six years of age and live from 15 to as many as 100 years, depending on the species.



Eastern pond mussel, up to 6".

Mussels are threatened by dams, pollution, silt, and changes in water temperature or chemistry. Whatever kills fish will also kill mussels, because they are dependent on fish to complete their life cycle. The presence of mussels indicates a relatively healthy freshwater environment. As water quality declines, mussels die out; as it improves, their populations increase. The way to preserve this endangered, but useful and interesting, group of creatures is to maintain healthy ponds and streams.

Holly Hobart

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LETTERS TO THE EDITOR ARE WELCOME!

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