

THE IPA NEWSLETTER

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

Winter 2013

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WELCOME SPRING BY COUNTING HERRING!

2012 was a banner year for the Marstons Mills River herring run! The final estimate for 2012 was that nominally 80,000 – 95,000 herring came through the Marstons Mills River on their way to spawn in Middle Pond and Mystic Lake—many times the numbers seen in previous years. This projection is based on a model that uses the actual count hourly profiles the observers generated last year. In order to have an accurate annual projection, each herring run must report an accurate hourly profile. The 2012 observed and reported count was nominally 10% of the actual number of fish that crossed the weir. Going forward, we plan to work with the State Diadromous Fisheries Biology & Management Program of the MA Division of Marine Fisheries (DMF) to be able to accurately project each year's total count, based on the hourly profiles.

The count started in late March last year, which was two to four weeks earlier than they typically start.

Three Bays Preservation will coordinate the counting effort again this year, and they are always looking for volunteers. No experience is necessary, and it is a very minimal time commitment. All that is required is 10 minutes of counting in a particular hour, and prompt reporting of both the number of herring crossing the weir, and the water temperature during the count.

A new blog was set up in 2012 to document all the activities and also to coordinate and schedule volunteers. All counts during the actual run are important, even if no fish are observed. We need counters for most hours between 7 a.m. and 7 p.m. every day of the 4 to 6 week period that the herring are running.

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Annette Nichols takes water temperature. Herring start to run when the water reaches 50 degrees F.

IS HAMBLIN POND BEING OVERLOOKED?

IPA Board members and officers have recently been hearing complaints that with all of the effort spent addressing the problems of Mystic Lake and Middle Pond during the past few years, the IPA seems to have forgotten about Hamblin Pond. It is certainly true that Hamblin has not experienced such epic problems as the other two ponds, and that is something for which we are profoundly thankful. The 'hands-on', working members of the IPA have been swamped by the critical issues raised by Mystic and Middle in recent years, while Hamblin has remained serene and relatively untroubled. So it is true that Hamblin has not had as much attention as we might have wished during the past few years. One particular problem for the past several years has been the lack of a boat to take people and testing equipment out on the pond as needed.

It might be worthwhile to review some history with respect to Hamblin. In 1990, the pond was a soup of algae and pollution from the recently-closed duck farm that had operated on its shore for many years. Bob Derderian and others in

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Database Manager
Betsey Godley

Newsletter Editor
Holly Hobart

Webmaster
Tamar Haspel

IPA, Inc., P.O. Box 383
Marstons Mills, MA 02648

E-mail: info@indianponds.org

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to visit the IPA website

<http://www.indianponds.org>



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

This newsletter, with a circulation of over 650, is a forum for the exchange of ideas on matters concerning the IPA mission, and the views expressed by authors of articles do not necessarily

10 HP LIMIT ON BOATS USING INDIAN PONDS

Recently there has been an increase in boats operating motors in excess of 10 hp on the ponds. Although there is signage at the boat ramps citing the 10 hp limit, violations are on the rise. These restrictions were put in place by the Town to maintain safety and preserve the environment by limiting speed, wake, and capacity of boats. Violations may be reported to the Town's Natural Resources Department at (508) 790-6272. If officers are unavailable, please leave a phone report.

WANTED! APPLICANTS FOR 2013 IPA SCHOLARSHIP NEEDED

*Do you possess an interest and a track record of helping preserve our environment?
Are you a graduating high school senior with strong academic achievement?
Are you planning on a future career that will help preserve and protect environmental and ecological systems?*

If the answer is yes, then apply for an IPA Schwarm scholarship!

The IPA is offering a \$1000 scholarship this spring to a graduating senior from Marstons Mills. The Schwarm Memorial Scholarship was established in 2005 in memory of Edward Schwarm, a former I.P.A. director and officer. It is in his memory and the goal of the IPA is to select a student who will balance his or her professional career with a continuing effort to preserve our environment.

This scholarship is available to any graduating senior residing in Marstons Mills and attending public or private high school. Applications are available at the Barnstable High School Guidance Office or on the IPA website at www.indianponds.org.

Deadline for submission is April 1st.

We encourage seniors to apply early!!

INDIAN PONDS CLEANUP DAY SET FOR JUNE 8

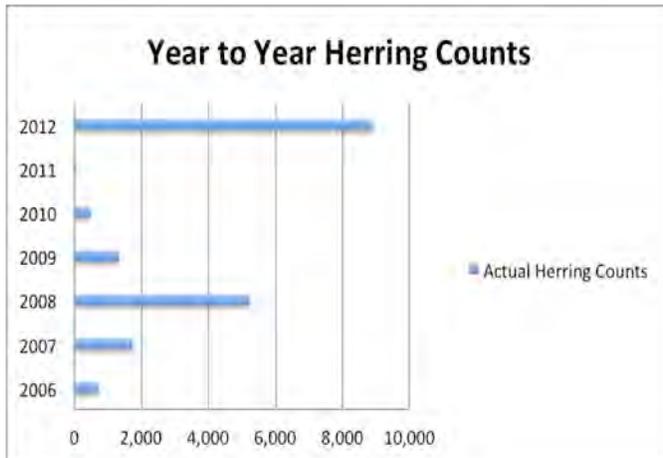
On Saturday, June 8, the IPA will sponsor its eighth annual cleanup of derelict boats and debris from the shores of the Indian Ponds. Volunteers in boats collect such unwanted items and haul them to a convenient point for pickup and proper disposal by Town personnel.

Owners of boats, floats, and docks are asked to be sure that these things are in good repair, well-secured, and labeled so they can be returned if they drift away.

If you are aware of any debris on your pond shore that you would like to have hauled away, or if you want us to search for something that you have lost, please alert us by calling Holly Hobart at (508) 428-0235 before June 8 or send e-mail to hhobart@comcast.net.

Anyone wishing to participate in the cleanup should meet at 9:00 a.m. at either the Race Lane Beach or the Hamblin Pond Boat landing. Please bring a boat with motor and equip yourselves with heavy work gloves, rope, and boots or water shoes.

WELCOME SPRING BY COUNTING HERRING (Continued from page 1)



To sign up to participate in the 2013 count, or if you have any questions, please contact Three Bays Preservation at info@3Bays.org, or 508-420-0780.

Watch for 2013 herring count updates at marstonsmillsherringcounts@blogspot.com

So please plan to enjoy one of the classic harbingers of spring and help us document the count of the annual herring spawning migration to the Indian Ponds!

- -- Annette Nichols

IS HAMBLIN POND BEING OVERLOOKED? (Continued from page 1)

the IPA and the Town worked together for five years to do the science, get the permits and funding, and accomplish the alum treatment that transformed Hamblin Pond into the sparkling jewel it is today. Since then, Susan Sawyer, and more recently Tamar Haspel, have done periodic water quality sampling during the summer and fall. Tamar also serves on the Board and is responsible for the IPA website. Nancy Wong, who lives in Mistic Lakes, has been IPA Treasurer and continues to be a faithful volunteer. Steve Paglierani has generously contributed his time and his boat as needed to the upkeep of Hamblin Pond, as well as having served on the IPA Board of Directors. We are tremendously grateful to all of these individuals.

Bob Derderian has been a Hamblin Pond supporter for many years. In addition to participating in the planning and execution of the alum treatment, Bob has served on the IPA Board for the past five years and has recently obtained a suitable boat and outboard which he has generously offered for use by the IPA for water testing and *Hydrilla* surveying on Hamblin Pond. Having use of Bob's boat will make it possible to do more frequent surveillance of the pond's health than has been done in the past several years.

Hamblin Pond is fortunate in not having critical water quality issues at present, but, like all ponds, it needs consistent maintenance. There's a lot to do. In addition to water testing, there is work to be done with respect to the large infestations of invasive *Phragmites*, purple loosestrife, and gray willow trees. Hamblin's shores have not had an organized debris cleanup in two years. The Hamblin Pond Town Beach and boat launch area require at least one annual trash cleanup. This past fall, in the absence of local volunteers, litter was picked up by a County prison crew brought in by the IPA. Frequent surveying for aquatic invasives such as *Hydrilla*, fanwort, and Asian clams (the latter two infest Lake Wequaquet) is urgently needed for Hamblin, but up until now has not been done for lack of a boat and one or more volunteers trained to identify the organisms. Finally, the IPA Board is always looking for people from Hamblin Pond who are willing to serve as officers and directors. **Hamblin Pond needs your help! If you live in or near Hamblin and would be interested in volunteering, please contact the IPA and offer your assistance.**

This lovely pond, like all freshwater resources in developed areas, is under constant threat. One potential problem is a gradual deterioration in water quality as phosphorus from runoff and septic systems builds up in the sediments. An alum treatment doesn't last forever, and the only way to detect such deterioration is by frequent and consistent water quality testing. Also, the possibility of a *Hydrilla* infestation is a serious menace to Hamblin, as *Hydrilla* is readily spread by boats and birds from one pond to another. Either of these threats has the potential to rapidly degrade or destroy the beautiful pond that Hamblin residents enjoy today. Both can be deterred by regularly-scheduled monitoring performed by trained, dedicated volunteers. Yes, Hamblin Pond has been getting the short end of the stick in recent years. It is time to give it the attention it deserves.

If you live on or near Hamblin Pond and would like to learn to do water sampling or *Hydrilla* surveying, please get in touch with Alex Frazee, IPA President, by sending an e-mail to info@indianponds.org.

-- Holly Hobart

BOB NICHOLS MAKES *HYDRILLA* PRESENTATION AT NEAPMS CONFERENCE

I attended the North East Aquatic Plant Management Society (NEAPMS) Conference held in Westbrook, CT on January 22-24 and made a presentation entitled, "Three Seasons of Applying Physical Methods to Control *Hydrilla* in Mystic Lake on Cape Cod". The presentation chronicled the IPA volunteer and Town funded efforts over the past three seasons to control *Hydrilla* in Mystic Lake using confined raking, hand pulling, benthic barriers, and suction harvesting. It also documented the spread of the plant using data and maps compiled for each of the three growing seasons. The slides from the presentation are available on the IPA website at www.indianponds.org.

Hydrilla was one of the main themes at this conference, which was attended by 160 people from state agencies, academia, consultants, contractors, and lake associations. The conference afforded us an opportunity to hear presentations on the efforts to control the *Hydrilla* infestation in the Cayuga Inlet at Ithaca, NY as well as discuss the subject with people involved. The Cayuga Inlet infestation is much worse than what we have in Mystic Lake. When first discovered in August 2011, it had grown to the surface over several acres, in up to 8 feet of water. Given the extent of the infestation at the time of discovery, the only viable option was to employ herbicide treatments. They spent several hundred thousand dollars on herbicide control of this *Hydrilla* in 2012.

They also tried DASH (Diver Assisted Suction Harvesting) in the Cayuga Inlet, but with a different type of DASH rig than was used in Mystic Lake last summer. The Cayuga DASH experience was very poor, since the rig pumped all of the suctioned material into mesh bags hanging over the side of the barge. Much *Hydrilla* was lost through the mesh, and some of the bags split. The DASH rig used in Mystic Lake was quite successful at minimizing any escaping plant fragments as the suctioned material was discharged onto a large perforated stainless steel tray, where it could be sorted, and from which it was loaded into plastic bins for disposal (see the Summer 2012 IPA Newsletter for pictures).

Turions (winter buds) have been observed forming on the Cayuga Inlet *Hydrilla* in the fall. Samples with turions were brought to the conference. These are the first *Hydrilla* turions we have seen, having never observed any on the Mystic Lake *Hydrilla*. Turions provide a second means by which *Hydrilla* can spread, in addition to stem fragments.

(Seeds rarely form and are not a significant factor in propagation.) Turions form along the stems in the fall, before the plant breaks up in early winter, and are deposited in the water body as the dying plant mass drifts around. In discussions with Aquatic Control Technology personnel, who are involved with the *Hydrilla* remediation in Long Pond (Centerville), we learned that turions have not been observed there either. Also, in discussion with someone from the Maine DEP, they said they have not seen turions on the *Hydrilla* in the two lakes in Maine where it has been found. All these northern *Hydrilla* infestations are of the monoecious type (meaning male and female flowers form on the same plant), but some of these produce turions and others,



Hydrilla* turions, which form at the leaf axils, have never been observed on the Mystic Lake *Hydrilla

apparently, do not. It is a good thing not to have turions since that leaves only plant fragmentation during the growing season as the means by which it spreads. Turions are distinct from tubers, which grow on the roots. Both turions and tubers allow the plant to regenerate the following season.

A common theme in all the *Hydrilla* presentations was that there is much to learn about the behavior and control of monoecious *Hydrilla* in northern latitudes. The majority of *Hydrilla* research has been directed at the dioecious biotype, which has been widely prevalent in southern states, having been first introduced in Florida in the 1950's. Monoecious *Hydrilla* was first introduced in the U.S. 30 years later in the Potomac River and has spread north.

-- Bob Nichols

A.C.T. REPORTS ON 2012 *HYDRILLA* MANAGEMENT AT LONG POND AND MYSTIC LAKE

Aquatic Control Technology (ACT) has submitted a report to the Town of Barnstable documenting their 2012 management activities of the *Hydrilla* in both Long Pond (Centerville) and Mystic Lake. At Long Pond herbicide was again successfully used to kill off the seasonal growth of *Hydrilla* in the east basin with minimal impact to native plant species. At Mystic Lake, 103 18-gallon totes of *Hydrilla* were removed from the northwest cove during nine days of Diver Assisted Suction Harvesting (DASH), which significantly reduced the dense patches in this area. IPA volunteers hand pulled and deployed benthic barriers on all the *Hydrilla* outside of this cove.

Following are ACT's recommendations for Mystic Lake next season, directly excerpted from their report:

"Based on the survey work done by the Indian Pond Association, the Mystic Lake hydrilla infestation has continued to expand despite the substantial control efforts that have been employed. In response to this expansion both the Town and Association intensified the hydrilla

management effort conducted in 2012 (DASH and bottom barrier – hand-pulling respectively). For these reasons we feel that the Town should be prepared to further increase the amount of DASH work performed in 2013 to in the range of 15 days. We feel that another year of small scale non-chemical management is warranted at Mystic Lake in 2013 to fully assess its impact on the hydrilla; however, if surveys continue to show hydrilla expansion we feel that the Town should consider more aggressive larger-scale management options, such as area selective chemical treatment. Allowing the hydrilla to continue to colonize new littoral habitat further complicates future management and significantly increases the potential for the hydrilla to escape to other nearby waterbodies."

Next summer the IPA will again need volunteers willing to snorkel and help with the hand pulling and placing of benthic barriers to control *Hydrilla* in Mystic Lake. Please contact info@indianponds.org if you can offer assistance.

-- Bob Nichols

THE FUTURE OF FULLER FARM

In November the Barnstable Land Trust (BLT) became the proud owner of Fuller Farm, 23 acres of rolling hayfields and wooded paths that surround an abandoned cranberry bog. Acquisition of this land helps preserve the bucolic character of Marstons Mills and protects Turtle Cove, a sensitive area of Middle Pond. Due diligence is being done to determine next steps. These include the feasibility of turning the 1870s-era homestead into an office and educational center for BLT. In addition to making sure the historic farmhouse is secure, volunteers have helped pick up and haul away some of the trash and debris that has accumulated over the years. Volunteers are still needed. Contact BLT Land Management Coordinator Red Bansfield at 508-771-2585 or red@blt.org if you'd like to pitch in on this spectacular property.

BLT is nearing the home stretch on the acquisition of Jane Smith's lot on Middle Pond. They anticipate closing on the property soon, thanks to 123 private donations plus support from Barnstable's Community Preservation Act funds and the Cape Cod Five Charitable Foundation.

The Smith lot, a 1.17-acre parcel, is the last undeveloped land along the fishway that conducts herring from the river to their spawning grounds in Middle Pond and Mystic Lake.



The old Fuller farmhouse at sunset.

At the end of 2012, the BLT successfully completed 8 projects that protected 42 more acres in the Town of Barnstable and celebrated acquisition of 1000 acres over the organization's 30-year history.

To make a donation to help support these or other BLT projects, go to www.blt.org or send a check to BLT at P.O. Box 224 Cotuit, MA.

-- Jaci Barton

COLOR ME SURPRISED

Have you noticed lately how brilliantly some of the birds are colored? The two male Cardinals and even the females in our yard absolutely glow. The Carolina Wrens with their buff chests seem to have an internal light. Even the Chickadees seem to be starker white and black than just a few weeks ago.

Normally, most male birds change their plumage at mating time to attract a mate, but, it is still the middle of winter. It was 17° when I took the dog out for a walk this morning. So why are the birds changing so early? I speculate that the past few weeks of 50° temperatures have fooled the birds into thinking that spring is coming early. I hope they're correct.



But that brings up a whole other discussion, fortunately, because I was looking for something to write about this time. As you may have suspected, birds do see in color. Otherwise there would be no point in males changing plumage. In fact, they see more colors than humans as some can see into the ultra-violet ranges.

The colors in birds' feathers are formed either with pigment or by reflective light or, in some cases, by a combination of both. The greens shown by some Parrots are the result of yellow pigments over-laying the blue reflective quality of the feather.

Pigmentation comes from melanins, carotenoids, and porphyrins. Melanins provide strength as well as colors to feathers. Those without any melanin are the weakest of all the feathers. Depending on concentration, melanins can produce colors ranging from black to pale yellows. Carotenoids come from plants and are acquired by eating the plant. They produce the red of the Cardinal and the bright yellow of the Goldfinch and Yellow Warbler. They can work with melanins to produce other colors such as the olive-green of the female Scarlet Tanager. Porphyrins are produced by modifying amino acids. Porphyrins produce colors like pinks, browns, reds and greens.

They are found in some Owls and Pigeons. They also produce the brilliant reds and greens of some tropical birds.

The reflective quality that produces colors in some birds is a result of the structure of the feathers. The Hummingbird is the best known example of this. Those of you who have Hummingbird feeders may have noticed that, at some angles, the throat feathers appear black while, as the viewing angle changes, they take on a glowing, shimmering quality. This shimmering is the result of the reflection of light on the microscopic structure of the feather.

Not all structural colors are iridescent. Tiny air pockets within the feathers scatter incoming light producing color. Bluebirds and the various Jays are examples of this. If you find a Blue Jay feather in your yard, shine a flashlight through it from behind and you will see that the feather turns brown because the light is not being reflected off the front of the feather.

Now you know more than you ever wanted to know about the colors you see in birds. The next time you are looking at a bird, you can try to figure out how its color is generated.

-- Dave Reid



PHOTO CREDITS: Pages 1 and 6, Betsey Godley; page 3, chart, Annette Nichols; page 5, Jaci Barton.