

# THE IPA NEWSLETTER

Mystic Lake, Middle Pond, and Hamblin Pond

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## IPA TARGETS INVASIVE GRAY WILLOW FOR REMOVAL

The Indian Ponds Association has focused considerable attention recently on invasive plant species (and their removal) such as purple loosestrife, *Phragmites* (the common reed), and gray willow. The Summer 2006 issue of this newsletter first drew attention to the gray willow. The lead article in the Fall 2006 issue reported on the visit in late October to the Indian Ponds by two eminent experts, Tim Simmons, a restoration ecologist with the Massachusetts Natural Heritage & Endangered Species Program, and Tom Rawinski, a botanist with the U.S. Forest Service, who confirmed the identity and extensive presence of the gray willow along the shores of the Indian Ponds. These experts explained that the "gray willow shades out everything" and destroys the natural shoreline habitat for native plants; it spreads by seeds and

by sprouting roots from branches that bend over touching the water and will gradually take over more and more of the shoreline. If uncontrolled, gray willows will eventually obliterate the shoreline of a pond and invade open water areas.

A survey of the shoreline of the three Indian Ponds has determined that gray willows exist on nearly every parcel of waterfront property, both private and Town-owned, totaling several hundred for each pond. In short, gray willows constitute a serious threat to the well-being of the Indian Ponds.

Last fall, the IPA initiated discussions with Rob Gatewood, Director of the Town Conservation Division, to develop plans for the removal of both gray willow and *Phragmites*. Further meetings in January have focused on how the IPA and the Town can partner and coordinate on the eradication of these invasives from the Indian Ponds, possible methods to be used, and funding sources to help cover removal costs. A small-scale pilot project is currently being considered to deal with gray willows and *Phragmites* on some of the Town-owned property on Hamblin Pond, Middle Pond, and Mystic Lake. Further information on this project as well as future plans for the removal of gray willow from private waterfront property on the Indian Ponds will be reported in subsequent issues of this newsletter.



Gray willow (*Salix atrocinerea*) on the shore of Mystic Lake.  
Photo by Tom Rawinski.

Emory D. Anderson, PhD

## LATEST ON ALUM TREATMENT FOR MYSTIC LAKE

Town Manager John Klimm will soon decide which conservation-related projects he will include in his 2007 fiscal year budget submission to the Town Council. One of these projects is the design and permitting phase of an alum treatment for Mystic Lake. In late November, IPA President Emory Anderson wrote to Klimm urging him to assign high priority for this project and citing a series of reasons why. On December 2, Anderson and IPA Vice President Holly Hobart met with Klimm and Lindsey Counsell, Town Director of Environmental Services, to discuss and argue for the inclusion of this project. The following list of reasons were provided to Klimm and Counsell as justification for allocating funds for this first phase needed for the remediation of Mystic Lake:

- The science has been done and the results are clear (CCC Final Report, March 2006) – Mystic Lake is impaired with excessive phosphorus.
- Phosphorus that is degrading the water quality in Mystic Lake is mainly (77%) being regenerated from sediments, not entering the pond from external sources.

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

E-mail: [info@indianponds.org](mailto:info@indianponds.org)

<http://www.indianponds.org>

**Webmaster**  
John Anderson

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*This newsletter, with a circulation of over 600, 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.*

## TIME TO SIGN UP AND PAY DUES

It's time to renew your membership in the IPA or, if you have not previously been a member, to join this unique environmental and educational organization whose mission is ". . . to preserve and protect the natural environment and ecological systems of the Indian Ponds and surrounding parcels of lands 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." Please read the enclosed membership letter, take time to fill out the 2007 Membership/Donation Form, and send it with your check in the pre-addressed envelope. We hope you will join us in our efforts to protect the Indian Ponds.

## ATTENTION: HIGH SCHOOL SENIORS

High school seniors living in Marstons Mills, scheduled to graduate this spring from either Barnstable High School or the Sturgis Charter Public School, and planning to attend college this fall are encouraged to submit an application for the IPA's Edward Schwarm Memorial Scholarship. The Schwarm Memorial Scholarship in the amount of \$500 was established in 2005 in memory of Edward Schwarm, a former IPA Director and officer who died in May 2005.

Applications must include a 500-word essay and/or a written description or documentation of a community service, action, or accomplishment related to the mission of the Indian Ponds Association. The deadline for submission is April 1. The winning applicant will be recognized and receive a check at the July 2007 IPA Annual Meeting.

## IPA AND MMVA SEEK CHANGES TO MYSTIC LAKE TOWN BEACH

The IPA and the Marstons Mills Village Association have jointly requested the Town's Department of Public Works to make some badly needed improvements to the parking area and boat launching ramp of the Town Beach at the north end of Mystic Lake adjacent to Race Lane.

Those familiar with this facility are aware of a very small parking area capable of presently handling only a half dozen vehicles and a boat launching ramp only usable by canoes or kayaks. The request to the Town is to re-engineer the parking area to hold more vehicles and to straighten and blacktop the boat launching ramp to accommodate trailers carrying boats with motors. In addition to these improvements, the beach itself, a popular site for both local residents and off-Cape visitors, is plagued with a number of

gray willows (see article on page 1). It is hoped that these trees, as well as other undesirable brush, that currently restrict the use of much of the beach, will be removed.

In addition to these improvements, the IPA and MMVA have requested the placement of trash barrels at the Mystic Lake Town Beach and the Hamblin Pond Town boat launching site off Route 149 during the summer season.

## VISIT OUR WEBSITE

[WWW.INDIANPONDS.ORG](http://WWW.INDIANPONDS.ORG)

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## SPEAKERS FOR CAPE KEEPERS

Two members of the IPA, Vice President Holly Hobart and Newsletter Editor Geri Anderson, have joined the Speakers' Bureau of Cape Keepers. They, together with a number of other volunteers, have participated in targeted training on wastewater and septic system issues on Cape Cod, are willing to speak to groups on Cape Cod at no cost, and will come equipped with supporting materials to distribute. Board member Robert Kohl has been a previous spokesman for Cape Keepers. The mission of Cape Keepers ([www.capekeepers.org](http://www.capekeepers.org)), sponsored by Barnstable County, is to encourage Cape Cod residents and business owners to learn about the impacts of septic system use and to take responsibility for the health of the ponds, bays, and estuaries.



## LATEST ON ALUM TREATMENT FOR MYSTIC LAKE

(Continued from page 1)

- Likely major sources of phosphorus – a large dairy farm on the north shore of the lake in operation for more than 40 years, a pig farm also on the north side, and garbage dumping in the northwest corner of the lake – were discontinued many years ago.
- Mystic Lake is designated a “Core Habitat” by the Massachusetts Natural Heritage Program, one of only three ponds so designated in Barnstable (the other two are adjacent Middle Pond and downstream Mill Pond).
- Mystic Lake is the home of several rare species, which would be further endangered by the continued degradation of water quality.
- The bottom 15 ft of water (in a 45-ft deep lake) is now unsuitable as habitat for fish and other animal species because of no oxygen in the summer.
- Mystic Lake is a nursery area for river herring via the Middle Pond herring run.
- Mystic Lake is the second largest freshwater body in the Town of Barnstable and needs to be protected as a valuable public natural resource and treasure.

- Middle Pond, which connects with Mystic Lake, is endangered by the deteriorating water quality in Mystic Lake and would be helped by remediation of the water quality in Mystic Lake.
- Mystic Lake would be expected to respond comparably to Hamblin Pond, which was heavily polluted with phosphorus from a commercial duck farm, was treated with alum in 1995, and is now clean, free of algal blooms, and stocked annually with trout.

At the December 2 meeting, Klimm acknowledged receiving and answering letters and e-mail messages from IPA members and IPA-area neighborhood associations asking him to include funding for the remediation of Mystic Lake in his budget request. He indicated appreciation for this public input and encouraged further such expressions of support. **The IPA again asks IPA members and other concerned citizens to express their views on this matter to Mr. Klimm by sending letters to him at Town Hall, 367 Main Street, Hyannis, MA 02601, by sending e-mails to him at [john.klimm@town.barnstable.ma.us](mailto:john.klimm@town.barnstable.ma.us), or by calling him at (508) 862-4610.** This should be done as soon as possible as Klimm’s decision will probably be made no later than mid-March.

## MACOLAP WINTER WORKSHOP

Over the past years, your Indian Ponds Association has broadened its dialogue with other Cape Cod pond/lake associations in order to benefit from our shared experiences in caring for our ponds and lakes. This very productive dialogue led the Board to reach out last year beyond the Canal to become a member of the Massachusetts Congress of Lake and Pond Associations, Inc. (MACOLAP). The mission statement of MACOLAP reflects our IPA goals in numerous ways: “.....to preserve, protect, maintain, and enhance the environmental, aesthetic, recreational and economic values of lakes and ponds,.....” Please log on to their website at [www.macolap.org](http://www.macolap.org) for more information.

On Saturday, January 27, more than 120 people gathered in Worcester for MACOLAP’s 20<sup>th</sup> Winter Workshop. The all-day program consisted of four overview addresses stressing the importance of being in contact with our elected local and State representatives, ten different workshops on a wide range of applicable topics, together with ample time to discuss current remedial techniques and success stories throughout Massachusetts with qualified experts and other participants. We have established a number of new connections that should hopefully prove to be very helpful in the months to come.

Rick Wheeler

## SMEDLEY

by Gordon Nelson



## GRAY WILLOWS AND BIODIVERSITY IN THE INDIAN PONDS

### Why Is Biological Diversity Important?

No plant or animal exists in isolation. Each organism in nature is dependent on other specific organisms in order to feed, find shelter, reproduce, and raise its young. Songbirds time their spring migrations to coincide with the appearance of particular species of insects which, in turn, are hatching or emerging at a time and place where they will find the specific types of plants they need to feed on. A bird that feeds its young on one species of caterpillar may be unable to keep its brood alive if that species of caterpillar has been decimated by disease, bad weather, pesticides, or destruction of habitat. A caterpillar that requires a particular species of plant to eat will starve if that plant is unavailable. Birds that require a certain type of tree in which to build their nests and successfully raise their young will soon disappear from places where that kind of tree has been removed. All of the natural world is a network of such dependencies. For the plants or creatures involved, these dependencies are absolutely crucial — a matter of life or death. Every plant or animal that disappears or becomes extinct leaves a hole in the web that affects the lives of others.

### Diversity in an Atlantic Coastal Plain Pond

An ecological community is a group of plants and animals that live in a particular type of environment and support each others' lives through a myriad of connections and dependencies that have become established over long periods of time. An Atlantic Coastal Plain Pond is an example of such a community. Each of the three Indian Ponds is an Atlantic Coastal Plain Pond. Emerging during the time the last glacier receded and the bare land slowly thawed and drained, these ponds are groundwater-fed, naturally acidic, and low in nutrients. Their sandy shores support a small but diverse community of plants and animals that includes insects, molluscs, crustaceans, amphibians, reptiles, birds, mammals, fungi, mosses, herbaceous plants, shrubs, and trees. Many of these organisms live only in the Atlantic Coastal Plain Pond community, which is itself an uncommon environment. Some of them are now rare or threatened by environmental changes such as increased nutrients produced by surrounding development, changes in groundwater levels caused by pumping, and competition from foreign invaders.

Although the entire network of dependencies in the Atlantic Coastal Plain Pond community has not been traced, we do know about a few links that are important. The three threatened species of pond mussel depend on fish, whose gills shelter the young mussel *glochidia* during their early childhood.

One of these mussels is thought to deposit its *glochidia* only on river herring. Similarly, the larvae of dragonflies and damselflies require emergent plants, such as the bayonet rush (*Juncus militaris*), to support them as they undergo their transformation to adulthood. It is so easy to believe that if there were no emergent plants, these insects would simply find something else to climb out on, because that is what we ourselves would do. But the behavior of most creatures is more hard-wired than ours, and if emergent plants were not available, in all likelihood the damselfly's metamorphosis would not happen, reproduction would not occur, and the species would die out.

### How Do Invasive Species Affect Diversity?

When foreign plants invade the little kingdom of the Atlantic Coastal Plain Pond, they face little or no competition from organisms already living here. No insects have evolved here to attack the invader's leaves, roots, or fruits, no bacteria or viruses reduce their numbers by disease, so they tend to spread rampantly, gobbling up habitat and crowding out the natives. They reduce the space and food sources available to native wildlife without, in most cases, providing a good substitute. They create one more source of stress in an ecological community that may already be struggling in the face of poisons, pollutants, destruction of habitat, and changes in climate. Invaders reduce diversity by tearing holes in the network of dependencies among the natives, eventually changing the character of the ecological community beyond recognition.



Bayonet rush plants growing on the Hamblin Pond Town Beach.  
Photo by Holly Hobart.

### How Does the Gray Willow Harm the Ponds?

The European gray willow is a stealth invader of Atlantic Coastal Plain Pond habitat. Growing into a fifteen-foot tree that closely resembles native pussy willows, it has spread undetected on Cape Cod for nearly a century. The gray willow invades and occupies the pond shoreline by displacing and shading out a unique community of herbaceous flowering plants that appears on the sandy shore during low-water years. It also spreads into open water by sprouting roots at the tips of branches that bend to touch the water's surface. The hundreds of specimens lining the shores of the Indian Ponds will require a major effort to remove. Removal, however, is a necessary step towards restoring and mending the web of diversity that characterizes this ecological community. As stewards of these ponds, it is our responsibility to see that the job gets done.

Holly Hobart