

THE IPA NEWSLETTER

Mystic Lake, Middle Pond, and Hamblin Pond

Winter 2010

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CONCOMM APPROVES ALUM TREATMENT

At its February 2, 2010 meeting, the Town of Barnstable Conservation Commission voted unanimously to approve an alum treatment for Mystic Lake. This decision culminated a multi-year effort by the Indian Ponds Association and the Town of Barnstable Conservation Division to seek authorization to significantly reduce the recycling of the excess amount of internal phosphorus in the lake that had progressively diminished water quality by fueling increasing numbers of detrimental algal blooms that threaten the ecological well-being of the lake.

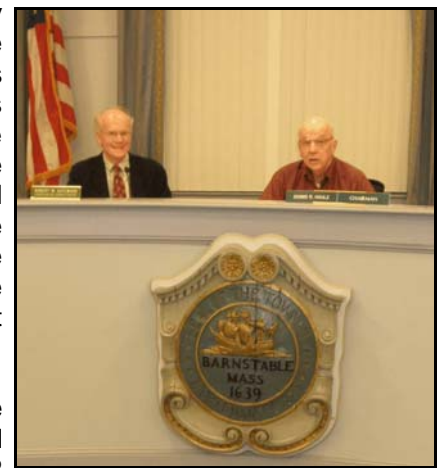
The deterioration of the lake's water quality was amply demonstrated in August–September 2009 when a massive algal bloom resulted in the death of hundreds of thousands of freshwater mussels, including three species of mussels listed as endangered by the Massachusetts Natural Heritage & Endangered Species Program (NHESP). This agency, responsible for protecting rare and endangered species under the Massachusetts Endangered Species Act, had refused to approve the alum treatment in 2008 for fear that it would significantly reduce the food supply (i.e. microscopic algae) of the mussels and adversely impact the animals. As reported in the Fall 2009 issue of this newsletter, only after the massive die-off of mussels did NHESP reverse its earlier decision and inform the Town that it would allow the alum treatment to go forward.

At the meeting, held in the Town Hall Hearing Room, Rob Gatewood, Director of the Town Conservation Division, reviewed events leading up to the present time and noted that a new treatment footprint and dosage higher than currently authorized by NHESP was now being proposed. The new footprint for the area to be treated by alum, based on a new modified bathymetric map, had been accepted by NHESP. He thanked the IPA for initiating and backing the alum treatment with scientific know-how and technical support, and especially thanked Bob Nichols of the IPA for providing the new bathymetric map which depicted two small, deep basins in the northern part of the lake, in addition to the main, deep basin in the southern part of the lake, that earlier maps had not shown. He also acknowledged the assistance provided by an IPA working group comprised of Holly Hobart, Carl Thut, Bob Nichols, and Emory Anderson.

Dr. Ken Wagner from AECOM, the company under contract to the Town for the design and permitting phase of the alum treatment, noted that Mystic Lake, like all kettle hole lakes formed by the melting of glacial ice blocks, had very minimal watershed input and, like all other such lakes, suffered from the gradual build-up over many years of internal phosphorus.

A major point of discussion throughout the hearing was the appropriate dosage of alum. The original recommendation by ENSR/AECOM in 2008 had been for a dosage of 40–50 grams (g) of aluminum (Al^+) per square meter (m^{-2}) of the lake surface to be treated. Negotiations in 2009 with NHESP, in an attempt to secure approval for an alum treatment, had reduced this to only 25 g $Al^+ m^{-2}$. However, a recent review by Bob Nichols of the ENSR dosage calculations versus the amount of phosphorus found in the lake's sediments reinforced the need for a dosage of about 50 g $Al^+ m^{-2}$. According to Wagner, a treatment with a dosage of only 25 g $Al^+ m^{-2}$ would most likely be effective in inactivating the phosphorus for only 5-7 years, whereas a dosage of about 50 g $Al^+ m^{-2}$ should neutralize the phosphorus for 15-20 years or longer. Overdosing would not be a problem, except that using more alum would increase the cost. The amount of alum to be administered in a given lake depends on the amount of phosphorus in its sediments. Long Pond in Harwich/Brewster received 30 g $Al^+ m^{-2}$, while Hamblin Pond was given 40 g $Al^+ m^{-2}$. Given the amount of phosphorus found in Mystic Lake sediments, a dosage of about 50 g $Al^+ m^{-2}$ seems appropriate.

(Continued on page 2)



Rob Gatewood (left) and Chairman Dennis Houle (right) at the February 2, 2010 Town of Barnstable Conservation Commission meeting.

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This newsletter, with a circulation of over 650, 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.

CONCOMM APPROVES ALUM TREATMENT *(Cont'd from page 1)*

Gatewood indicated that Hamblin Pond was holding up well 15 years after its alum treatment. He cautioned that it would be unwise to approve a low dosage (e.g. 25 g Al⁺m⁻²) and risk shortening the life expectancy of the treatment. Doing so would necessitate a repeat treatment in a few years, the high cost of which would undoubtedly make that impossible. Consequently, it was important to do it right the first time.

Public comments included statements by three individuals opposed to the alum treatment and by five IPA members (Bob Nichols, Emory Anderson, Holly Hobart, Alex Frazee, and Carl Thut) who spoke in support of the treatment. Chairman Dennis Houle reported that the Commission had received several letters plus a signed petition opposing the treatment, but a much larger number of letters and emails supporting the treatment. Those speaking in opposition felt that the cause of last summer's algal bloom and mussel die-off was not sufficiently known, that residential septic systems and the excessive rainfall early last summer were most likely the main factors, and that alternative solutions, such as aeration or connecting homes around the lake to a municipal wastewater treatment system, might be better.

Wagner answered various questions by Commission members and also responded to some of the comments made by those who had spoken in opposition to the treatment. He supported the need for watershed management (e.g. public sewer system), but stressed that watershed management would not fix Mystic Lake's phosphorus problem. For kettle hole lakes, such as Mystic Lake, the input of phosphorus, via groundwater, from residential septic systems was insignificant compared to the internal recycling of phosphorus already in the lake's sediments. Regarding the massive mussel die-off of last summer, he acknowledged that the various causes of mussel deaths suggested by the IPA (i.e. suffocation, ammonia poisoning, cyanobacteria toxin) were all possible, but that definitive answers were lacking. He was adamant in condemning state officials for their failure to investigate the mussel deaths, which he considered "absolutely criminal".

Wagner noted that excessive rainfall, mentioned as a possible cause of the algal bloom, is normally good for Cape Cod ponds and does not usually promote algal growth. Since the Cape has such porous, sandy soil, the watershed effect from excessive rain is not from runoff, but from an increased flow of iron-rich groundwater into the lake, which binds with phosphorus under oxygenated conditions. That effect, combined with the associated cloudy weather, is not conducive to algal blooms. Only if strong winds accompany the heavy rainfall would there be the potential promotion of algal growth by mixing phosphorus-rich bottom waters into the upper waters.

Wagner also emphasized that alum, when administered properly with appropriate chemical buffering to prevent a change in pH, does no harm to aquatic organisms. He cited the 2007 alum treatment to Long Pond in Harwich/Brewster where there were no deaths of fish or mussels during or after the treatment. Regarding alternative phosphorus inactivation methods, aeration/oxygenation and dredging of bottom sediments were the only other options, both of which were much more expensive than alum. In summation, Wagner said that alum has an excellent track record over many years on many lakes.

Commission member Dr. Peter Sampou, in responding to the comments by Dr. Wagner, said, "The science is very good. I'm very confident here with what you've presented."

A major component of the long list of conditions associated with the Commission's unanimous approval of the treatment was the following condition regarding the alum dosage:

"Alum dose shall be 20–25 g Al⁺ / m² (reduced from the originally proposed 45–50 g Al⁺ / m²). In the event that NHESP should conclude, based upon recommendations, that a higher dose is better for improving the pond, their higher dose would be allowed under this Order, up to maximum permittable 50 g Al⁺ / m²."

The treatment is expected to occur during a 2–3 week period between mid-September and late October. Additional information on the special conditions associated with the approval is provided in a related article on page 5.

Emory D. Anderson, PhD

HOW TO GROW A HEALTHY LAWN AND PROTECT THE PONDS

TEST YOUR SOIL: Your soil pH should be 6.5–7.0. Below that, add lime, which facilitates absorption of plant nutrients. Add organic matter depending on soil test. For details, contact the UMass Soil Testing Lab at (413) 545-2311 or visit their website at www.umass.edu/plsoils/soiltest.

ENRICH YOUR SOIL: 6 inches of good loam are needed to develop a healthy soil. Loam that contains an equal blend of silt, sand, and clay works best on the Cape.

FERTILIZERS: *Organica Lawn Booster* (8-1-1) is a low-phosphorus, corn-gluten product that helps prevent weeds. It contains microbes which keep phosphorus in the soil and out of the groundwater by breaking it down into a form that can be completely used by the lawn grass. *Ringer Lawn Restorer* is a completely non-phosphorus product.

WHEN TO FERTILIZE: The spring application should be done between April 15 and April 30.

GRASS TYPES: The best grasses are blends of mostly fine fescues or tall fescues mixed with some perennial ryegrass. These blends require minimal fertilizer and water. They also have good drought tolerance and most new varieties resist surface-feeding insects.

MOWING AND WATERING: Mow grass 3–4" high. Water deeply and only when needed—1" a week is enough even in drought. Best time to water is in the early morning. You can measure your watering depth by placing a tuna fish can by your sprinkler head and watching the time it takes to fill the can.

AERATE COMPACTED SOIL: This reduces runoff by helping fertilizer get into the soil.

Mary Manning

The above information was provided by Nan Ingraham of Hyannis Country Gardens, the Buzzards Bay Action Committee, and the Falmouth Bays and Ponds Project

STALKING THE ELUSIVE SPRING PEEPER

What is *your* favorite sign of spring? For some people, it's the first robin or daffodil. For me, it's always that evening in March or April when the spring peepers first burst into song. My house overlooks John Hamblin's cranberry bogs, which provide habitat for many frogs. The peepers always wake up first, then on successive evenings different species of frogs chime in with their own distinctive calls. Within a week or so, an entire symphony orchestra of frog voices, from the soprano of the peepers to the *basso profundo* of the bullfrogs, fills the evenings with the music of coming spring.

It's all about courtship, of course. Only the male peepers peep.



Spring peeper

The male peeper wakes up from his winter torpor, finds a shallow pool or pond, and establishes a tiny territory. The biggest male will start peeping first, quickly followed by all the other males. The females prefer the males that peep the loudest and fastest.

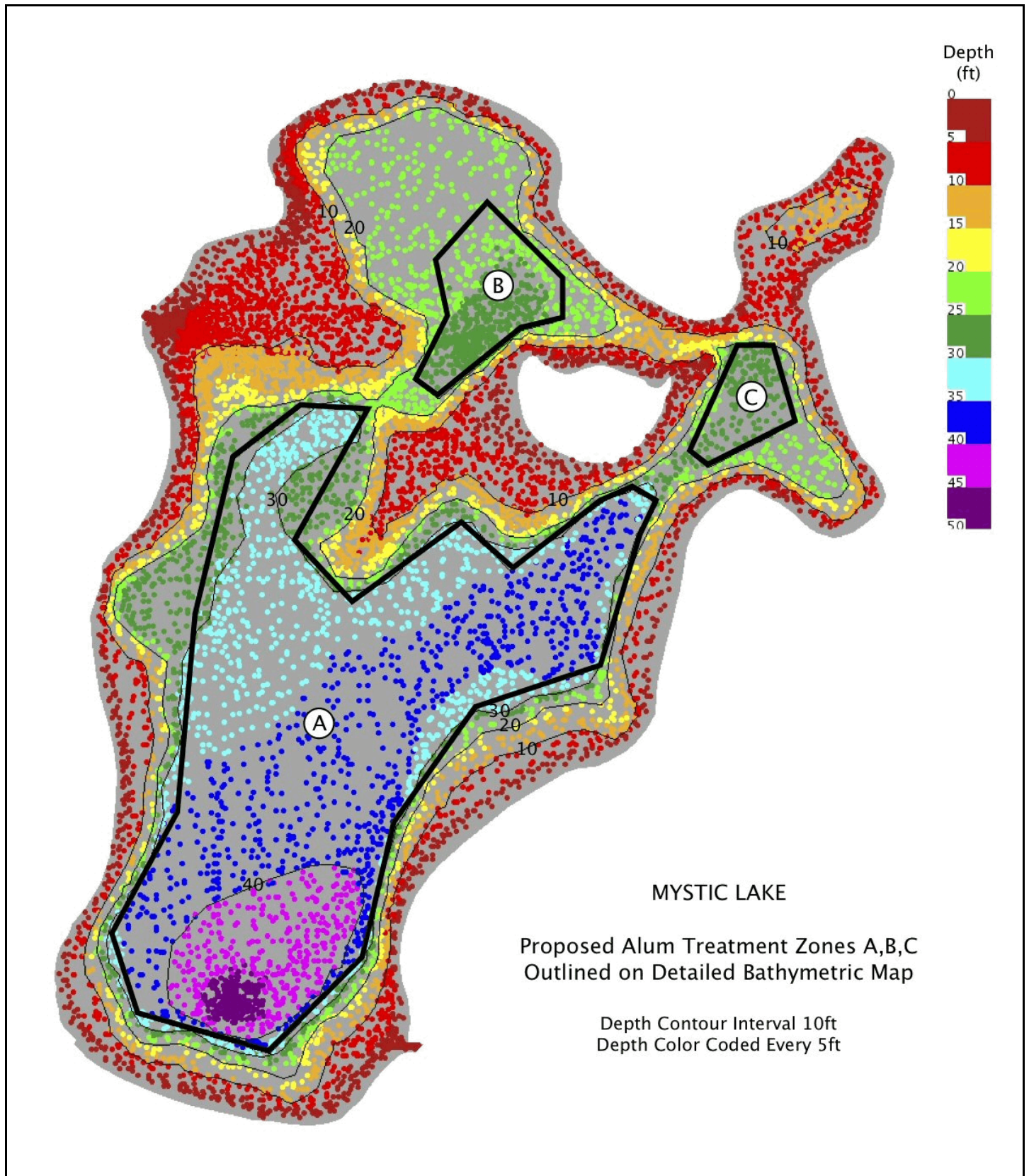
Peepers aren't called "chorus frogs" for nothing. They can be deafening during wet weather. But when you try to locate the source of the sound, you must search carefully, for individual peepers are hard to find. A male peeper would fit on a dime. The females are a little bigger, around an inch and a half long. Gray, brown, or olive green, they blend perfectly into their

surroundings. Most of them have a black "X" marking their backs. Sticky pads on their feet permit them to cling to tree trunks and branches, although they usually prefer to hide in leaf litter. Occasionally, one will hop into your house or stick to a screen or window and you'll get a quick look before it hops away. The "peep" comes from a vocal sac under the throat of the male which he rapidly inflates and deflates.

After mating, the female frog lays 800–1000 eggs in shallow water in a mass that she attaches to a twig or bit of greenery. The adults then move away from the water into woodland or shrubbery and spend the rest of the spring and summer catching and eating small insects and spiders. The eggs hatch within a week. The tadpoles have gills and spend 6–9 weeks swimming, eating algae and small pond organisms, and trying to evade voracious predators such as dragonfly larvae or giant water bugs. As soon as they are transformed into frogs, they leave the pond and join the adults in the woods and meadows while they continue to grow to full adult size.

When cold weather comes, peepers dig themselves into soft mud and store sugars in their bloodstream that prevent their blood from freezing during the winter. They spend the cold weather in hibernation and emerge in the spring, full of vigor and ready to peep.

Holly Hobart



Revised footprint for alum treatment of Mystic Lake superimposed on the detailed bathymetry showing three deep basins to be treated: A in the south end, B northwest of Ram Island, and C northeast of Ram Island. Basin boundaries are depicted by wide lines. Dots represent the 11,000+ digitized depth soundings made by IPA member Bob Nichols. Note: full detail is better seen in the color version of the newsletter available at www.indianponds.org.

FURTHER DETAILS ON ALUM TREATMENT

Since last summer's catastrophic event on Mystic Lake and the reversal of the original decision by the Massachusetts Natural Heritage & Endangered Species Program (NHESP), Rob Gatewood (Town Conservation Division Director) and an IPA working group (Holly Hobart, Carl Thut, Bob Nichols, and Emory Anderson) met several times to develop a response to the draft set of conditions proposed by NHESP for the alum treatment. In addition, thanks to the outstanding work by IPA member Bob Nichols, who prepared a very accurate and detailed bathymetric map of the lake based on over 11,000 digitized depth soundings, **a new "footprint" for the alum treatment was developed and has been accepted by NHESP.**

The new footprint, shown on page 4, differs slightly from the original footprint prepared by ENSR in 2008. The old footprint consisted of 43 acres in the southern half of the lake, comprising 29% of the lake's 148 acres, and including water 30 ft and deeper. The new footprint, totaling **55.6 acres or 38% of the lake's bottom**, includes the following three zones:

- **Zone A (48.7 acres)** includes the main "dead zone" of the lake, with a depth of 30 ft and deeper.
- **Zone B (4.6 acres)** is northwest of Ram Island and has a depth range of 24–27 ft.
- **Zone C (2.3 acres)** is east of Ram Island and also has a depth range of 24–27 ft.

Sediment sampling by ENSR in 2008 revealed that all three zones have bottom sediments that can be characterized as "muck" and contain high concentrations of phosphorus. It is these phosphorus-rich sediments that need to be treated and neutralized with the alum (aluminum sulfate) to form insoluble aluminum phosphate.

To view the figure on page 4 in full color, which will provide considerably better clarity of the depth data and boundaries of the new treatment footprint, access the newsletter at www.indianponds.org.

As reported in the lead article ("CONCOMM APPROVES ALUM TREATMENT"), **a long list of conditions were attached to the Conservation Commission's approval of the alum treatment.** Some of the 32 conditions were stipulated by NHESP, while others had been initially recommended by ENSR in 2008. These conditions are grouped into the following five categories: (i) notification and coordination; (ii) land-based activities; (iii) pre-treatment monitoring and mussel survey; (iv) treatment parameters and monitoring; and (v) post-treatment monitoring, mussel survey, and reporting.

Prior to, during, and after the alum treatment, NHESP and the MA Division of Fisheries and Wildlife will be notified of and required to approve of all activities associated with the treatment and any pre- and post-treatment monitoring.

As mentioned in the lead article, the treatment itself will be during a 2–3 week period between mid-September and late October of 2010. Suffice it to say, all aspects of the treatment operation will be closely monitored to ensure that it is conducted in accordance with agreed procedures.

Several important activities will take place before the start of the fall treatment. At least two months prior to the treatment, laboratory bioassays will be conducted to determine any potential adverse effects of the alum dosage and mode of application. Within two weeks of the treatment, a suite of water quality measurements will be taken at three locations in the lake.

In light of the major die-off of mussels last summer, **NHESP has agreed to conduct a pre-alum mussel survey** sometime during the spring or summer of 2010. This is a major concession by NHESP, which had originally demanded that such a survey be conducted at Town expense. The Town will, however, fund a post-treatment mussel survey one year after the completion of the treatment identical to the pre-treatment survey. Lastly, following the treatment, water quality measurements will be taken quarterly for one year.

More details of the specific activities associated with the alum treatment will be reported in the Summer 2010 issue of this newsletter.

Emory D. Anderson, PhD

WHAT DO YOU SEE?

We are interested in knowing what you see in your part of the Indian Ponds. Please send us photos and descriptions of usual or unusual animals, birds, insects, or whatever. We would like to establish an online photo gallery and a place to record and exchange information about our natural neighbors and their lives throughout the seasons. We are particularly interested in when you hear the first spring peeper, see the first and last hummingbird, hear the first oriole, and other seasonal happenings.

Please send any information you wish to share along with location, date, and photo if possible to info@indianponds.org.

QUIZ THE CHEMIST

Q: Is it true that the human body is made up entirely of chemicals?

A: Yes, everything on earth can be classified as plants, animals or minerals and they are all made up of chemicals.

Q: What is a chemical?

A: A chemical is a substance made from a mixture of elements. A rock is made up of a mixture of heavy elements. Plants and animals are made from lighter elements, and air is a mixture of the lightest elements.

Q: If chemicals are made up of elements, how many elements are there?

A: There are 112 known elements. Hydrogen is the lightest (relative weight 1) and copernicium is the heaviest (112).

Q: What are some of the common elements that make up all chemicals?

A: Some of the elements that make up all chemicals are hydrogen (H), oxygen (O), aluminum (AL), phosphorus (P), nitrogen (N), magnesium (Mg), calcium (Ca), potassium (K), sodium (Na), gold (Au), silver (Ag), lead (Pb), zinc (Zn), just to name a few.

Q: Why do chemists insist on using confusing symbols like Na or Cl for the elements?

A: They are lazy. It would take a lot of writing to list a chemical using the full name so they use a shorter symbol. Some common symbols are H (hydrogen), O (oxygen), Cl (chlorine), Pb (lead), Na (sodium). The last two were known to ancient chemists who wrote in Latin. Thus, the initials come from *Plumbus* and *Natron*.

Q: Is water a chemical?

A: Yes. A molecule of water consists of two atoms of hydrogen and one atom of oxygen (H₂O).

Q: Why are pharmacists in England called prescribing chemists?

A: The earliest chemists did everything from making medicines to mixing paint. People "went to the chemist" to get medicine. In England, the old name stuck. Now, chemists (like physicians) need to focus their efforts into specialized fields. Pharmacists are chemists who have specialized in the field of preparing medications prescribed by physicians.

Q: Do doctors and pharmacists ever prescribe alum to be taken internally?

A: Yes. Aluminum hydroxide (a by-product formed by the reaction of alum or aluminum sulfate with water) is a component of materials to combat heartburn and acid reflux.

Q: Is alum found in the food people eat on a daily basis?

A: Aluminum can be found in certain foods, particularly in bakery products like muffins, cakes, tarts, steamed buns, pancakes, and waffles. Aluminum is usually found in food additives used in commercial food production, for example, firming agents in pickled products, pH-adjusting baking powder in bakery products, emulsifying agents in processed cheese spread, and food colorings in cake decoration.

Q: Is it true that alum has been used to purify water for centuries in all parts of the world?

A: Yes. The earliest use of alum to treat water was by the Egyptians in about 1500 B.C. It has been used around the world ever since for water purification.

CONFUSED ABOUT FOOD CHOICES?

Americans are presented with more food choices when they visit their food store than any other nationality. If you doubt this, take a stroll down the cereal aisle in a market in virtually any other country. Many of my foreign friends end up asking me, "How do you learn which one to choose? It would take me a lifetime to find out." Unfortunately, we usually do not make our choices through experience. Instead, we are told what is best by marketers who exploit our lack of experience or knowledge. **Today, our food choices are even more complex due to the rise in popularity of foods that claim to be natural, organic, or of special origin.**

Table salt and sugar are good examples of foods that are marketed by their special origin. Salt is a relatively pure mineral: sodium chloride. All salt on this planet comes from sea water. Salt from mines come from deposits left behind when very ancient seas evaporated. "Sea salt" comes from evaporation of water from today's oceans. I don't know about you, but I would rather use salt from a prehistoric sea before sewage and chemical runoff were known. People readily pay quite a bit more for Mediterranean Sea salt. I have actually seen salt works in Marseilles that are located next to beaches that were closed due to contamination. Another example is white sugar. Refined sugar is 99.99% pure sucrose. Sucrose can be extracted from various sources, but cane and sugar

beets are the most common. Once refined, there is absolutely no difference in the resulting sucrose but people will gladly pay more for "cane" sugar.

The worst exploitation of the buying public is the use of the terms "organic" and "natural." The misuse is so common and so blatant that several years ago the USDA made an attempt to regulate the use of these terms. Special interest groups managed to dilute the USDA effort down to an entirely voluntary use of a small USDA ORGANIC seal. Don't be surprised if you've never noticed this seal since many "organic" suppliers do not meet the USDA standards. You have to ask yourself, "What part of the USDA standard was not followed by this supplier?" Even more troubling is the fact that there is no standard at all for the term "natural." It has no real meaning and you should be very careful when choosing "natural" peanut butter over "unnatural." The USDA standard has nothing to do with the food product itself, but rather how it was grown or raised. A truly organic farmer uses practices to conserve soil and water and reduce pollution. He uses no chemical fertilizers, pesticides, weed killers, growth hormones, or antibiotics. When you buy a USDA certified organic product, you are not only getting a chemical-free food, but helping to preserve the environment.

Carl Thut, PhD

DOWN BY THE OLD MILL STREAM

A brief recap of activities along the Marstons Mills River.

Herring Counting Program

2010 will be the fifth year of counting herring. We plan to take the same approach as last year using volunteers to count at both Mill Pond and at the control gate where the sluiceway enters Middle Pond.

The estimated 2009 run was about 11,000 herring, down significantly from 2008 when there were 43,000. While this doesn't sound very good, the interesting correlation is to 2006 when the fish in the 2009 migration were hatched. The 2006 projection was only 6,900, so from that perspective, it's a sizable increase. 2006 was our first year of counting, and we will need a few more years yet to be able to spot trends.

Last year, we had 32 volunteers who helped us in the counting program, and we hope many of those will return again in 2010; but, we are always looking for additional help. The process is simple: we count fish for 10 minutes, nine times a day seven days a week for five or six weeks. We'd like you to commit to doing 20–25 counts. If you'd like to help, please visit MMWRA.org for more information or call the number below.

Rebuilding the Sluiceway

This sluiceway is a part of the herring run and provides passage for the fish from the Marstons Mills River to Middle Pond and Mystic Lake where they spawn. This 1,100-foot structure was originally constructed around 1850 and was most recently rebuilt about 15+ years ago. It's a trench lined with wood which is in a deteriorating condition. We made emergency repairs in 2009, and it will require more of the same this year. Its life expectancy is perhaps a couple of years, and we're investigating alternatives to replace it.

Mill Pond Dredging

This pond has been filling with sediment washing down the river. A project has been underway for several years to rehabilitate it, most likely by dredging. The project hit a speed bump last year when it was determined that the pond contained a protected 2-inch minnow species: the bridle shiner. The project to dredge the pond has since been reviewed by the Massachusetts Natural Heritage & Endangered Species Program where it has received a tentative okay, with the requirement that the scope be scaled back somewhat and that bridle shiner mitigation be addressed.

Herring Run at Mill Pond

This structure at the intersection of Routes 28 and 149 has seriously deteriorated and needs to be rebuilt. While this is a separate project from the dredging of the pond and also separately funded, it would make a lot of sense to do them both at the same time.

Marstons Mills River Watershed Association

While this group has a ways to go to get completely organized, we continue to try to assist in making progress on the issues and other problems confronting the watershed. While the above represents the major projects, there are numerous smaller ones as well.

While the Natural Resources Division of the Town of Barnstable is the major player in all of these efforts, our mission is to support them in any way we can. We also work with Three Bays Preservation, who has been instrumental in many of these projects as well, especially the dredging of Mill Pond.

*Kevin Galvin 508-420-8100
Marstons Mills River Watershed Association*

CAPE COD WEATHER

60°F: Floridians turn the heat on. People on the Cape plant gardens.

50°F: Californians shiver uncontrollably. People on the Cape sun bathe.

40°F: Italian and English cars won't start. Cape Codders drive with the windows down.

32°F: Distilled water freezes. Cape pond water gets thicker.

20°F: Floridians don coats, thermal underwear, gloves, and hats. People on the Cape throw on a flannel shirt.

15°F: New York landlords finally turn on the heat. People on the Cape have the last cookout before it turns cold.

0°F: People in Miami start to die. Cape Codders close the windows.

-10°F: Californians go to Mexico. People on the Cape get out their winter coats.

-25°F: Hollywood disintegrates. Girl Scouts on the Cape are selling cookies door to door.

-40°F: Washington, DC runs out of hot air. Cape Codders let their dogs sleep inside.

-100°F: Santa Claus abandons the North Pole. People on the Cape get frustrated because "The caah won't staaht".

-275°F: All atomic motion stops. Cape Codders start saying, "cold 'nuff for ya?"

Edited by Carl Thut, PhD

THERE'LL BE BLUEBIRDS OVER...



Tough-looking eastern bluebird.

I'm sure, by now, we've all seen this guy. That is such a great photo.

I'll have to admit that, after living on Cape Cod for more than 35 years, I have seen only one bluebird in my yard. Also, having been to the White Cliffs of Dover at least four or five times, I don't recall seeing any there either. They are, however, around in large numbers.

Technically, what you are seeing around here is the **eastern bluebird**. There are also mountain bluebirds and western bluebirds which look quite different, but are just as pretty as our resident species. They are all small members of the thrush family, for what that's worth.

There is, of course, a reason why they are not hanging around my yard. They do not usually visit feeders nor do they hang around wooded areas. Eastern bluebirds live around open fields fringed with trees that provide suitable nesting holes. Meadows, fields, cranberry bogs, golf courses, and power line spaces are the best places to see them on Cape Cod.

They are year-round residents of the Cape and a good part of the eastern seaboard and the southern states. They are summer residents of the midwestern states and are not found too much west of the Mississippi River.

Their major source of food is insects. They sit on fence posts or wires and watch for caterpillars, beetles, crickets, and spiders. At this time of year, they eat large amounts of fruit and berries. In this area, they find blueberry, cranberry, holly,

bay, and juniper. In other areas, they also find huckleberry, dogwood, and currants. In other words, they will eat just about any fruit or berry that they can get into their beaks. They have also, rarely, been known to eat lizards and tree frogs.

The male participation in the family consists of hauling materials into a nesting cavity and then trying to attract a female to occupy it. The female builds the nest by weaving together the materials that the male provides, sometimes lining the nest with turkey feathers and other soft materials. She may build nests in several cavities or nesting boxes, but generally uses only one of the nests she builds. She will use the same nest for multiple broods since bluebirds are fully capable of more than one brood per season. The male graciously allows the female to do all the brooding and incubation of the eggs. The bonded pair may remain together over several seasons, although no exclusivity is to be inferred as the female can prove quite promiscuous.



Eastern bluebird in profile.

As I have said, they prefer to nest in cavities in trees, but they will readily accept a man-made nesting box. You can see those all over most open areas on Cape Cod. If you happen to live near one of the suggested habitats, you could set out your own nesting box and maybe attract a family of bluebirds. If you are handy with wood-working tools, you could build your own from plans available on the internet. If not, Hyannis Country Garden or the Birdwatcher's General Store in Orleans will be happy to sell you one.

Happy birding!

Dave Reid

If the IPA has your e-mail address on file, we can send you

- instant updates on news concerning the ponds
- the newsletter in full color (if you request it)

We promise NOT to share your e-mail address with anybody or send you spam.

Send an e-mail to info@indianponds.org today and we will add your e-mail address to our e-mailing list.