

# News from Crystal Lake Conservancy

Fall 2014

The Crystal Lake Conservancy is dedicated to the preservation and protection of Crystal Lake for the benefit of the public by promoting and supporting the unique natural beauty and enjoyment of the Lake.

Come Join Us for An Afternoon of Fun and Information!!

## **"PADDLES AND PUMPKINS"**

**Sunday, September 28, 2014**

**2:00pm-4:30pm**

20 Rogers Street, Newton Highlands, MA

**Presentation of Volunteer Awards:**

Sophia Autor (Student Recipient)

Hal Lichtin (Community Recipient)

**Support Crystal Lake Conservancy's efforts to keep Crystal Lake healthy**

**Suggested Donation:**

**\$10 donation per canoe/kayak/paddleboard**

**Cider, Strung Donuts Game & Pumpkin Decorating**

*Food graciously donated by Whole Foods, Newton Four Corners*

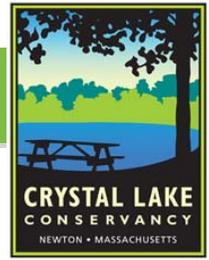
Enjoy a lovely canoe or kayak ride on Crystal Lake on a beautiful, crisp autumn day!

The Crystal Lake Conservancy and the Newton Parks and Recreation Department invite you to join us for a Sunday afternoon of activities on Crystal Lake. Participants will sign up for half hour slots between 2-4:30pm to enjoy the pleasures of canoeing/kayaking/paddle boarding. A lifeguard will be on duty and all participants will be required to wear life jackets and sign a waiver. Children under 16 must be accompanied by an adult. In addition all can enjoy catching strung up donuts, drinking fresh cider and decorating your own free pumpkin!!

**Learn about ongoing testing and watershed activities to protect Crystal Lake!!**

Visit our website at [www.CrystalLakeConservancy.org](http://www.CrystalLakeConservancy.org) or call Janice Bourque at 617-967-0797.

To learn more about the Crystal Lake Conservancy, visit our website at [www.CrystalLakeConservancy.org](http://www.CrystalLakeConservancy.org)



## Installed Storm Drain Filters Around Crystal Lake

You probably haven't noticed anything different about the storm drains (also known as catch basins) on the streets around Crystal Lake, but if you looked down into many of them, you would see something unusual that is good news for the health of the Lake! Twenty-seven of the forty-nine catch basins that collect storm water runoff from impervious surfaces in the Crystal Lake Watershed Area and discharge this runoff into the Lake have been fitted with water quality units. These units were installed by the Newton Public Works Utilities Division in July 2013 (see inset photo of a finished installation) and consist of a large, stainless steel tray to capture trash and debris, a sump to hold water and a filter cartridge. The proprietary units were selected due to their cost effectiveness, ease of installation and ability to reduce nutrient and bacteria levels in storm-water discharge. The units are removed during the winter and re-installed during the spring.

Storm drains capture storm-water runoff from driveways, parking lots and streets to help prevent flooding. However, this runoff picks up trash and pollution that can wash into Crystal Lake. Trash and organic matter (e.g., leaves and sand) are caught by the catch basins. Some things, however, are more difficult to capture. The purpose of the water-quality units is to filter the water before it enters the Lake to help remove such things as dissolved chemicals from fertilizers, oil and bacteria that are not caught by the catch basins. Due to the algae bloom issues in Crystal Lake, cartridges were chosen that are specifically designed to reduce nutrients such as phosphorus and nitrogen that are essential for plant growth, but in excess can trigger an algae bloom.



Storm Drain Filters

Because of the additional time required for the storm water to pass through the filters in the retrofitted storm drains, you may notice a small amount of "ponding" around these catch basins. Should ponding last more than hour after a storm is over or is creating a public safety concern, please contact the City's customer service number and report the problem.

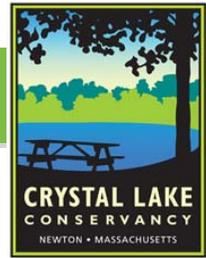
## Lake Avenue Construction

Recently Lake Avenue has had a lot of construction and pipes along the road. What is it all for?

The city is replacing the old 6" diameter unlined cast iron water main in this area with new 8" diameter lined ductile iron water main. This will enhance fire flow from hydrants and will improve drinking water quality. All water services will be replaced from the main to the property line. A letter had gone out to the local residents from the City.

Additionally, the City is relining all of the sewer pipes. These are very old systems and this step will help ensure that there is no contamination or leakage into the water system and Crystal Lake.

Help us stay green AND save paper and printing costs—sign up for our electronic newsletter by going to our website at [www.CrystalLakeConservancy.org](http://www.CrystalLakeConservancy.org)



## Educational Outreach

### Newton South High School

Janice Bourque and Frank Bachner engaged NSHS teacher Madhumita Bhattacharya and her classes with a presentation on basic limnology, the challenges facing Crystal Lake and the water testing and analysis that have been conducted by the Crystal Lake Conservancy for the past 4 years. NSHS student Sophia Autor has been volunteering for the past 2 years in the testing. This fall, Ms. Bhattacharya's biology class will engage in a field trip to Crystal Lake to learn good water sampling techniques, take water samples and discuss testing outcomes.

### Mt. Ida College

Mt. Ida College Professor Dr. Therese Thompson has volunteered, along with her students, to document the various plants inhabiting Crystal Lake during the 2014-2015 school years. The students will create a poster describing regulations, pollutants, how to create buffer zones, and sources for plants to utilize. Additionally, they will create mounted displays of the plants with descriptions for bathhouse display and on our website.

### Volunteers

Volunteers collected samples and monitored water temperature and visibility around the lake: Levingston Cove, Cronin's Cove, Lake Terrace, Bathhouse, and the center of the Lake. Samples are analyzed by state certified G&L Laboratory in Quincy MA. The water sampling includes bacterial analysis for E. coli and Enterococci as well as potential lawn and garden chemicals found in herbicides, pesticides, and fertilizers such as nitrate, ammonia and phosphorus.

**We would like to recognize the tremendous efforts of the following volunteers:**

**Sophia Autor, Frank Bachner, Jewel Kim, Al Leisinger, Hal Lichtin, Ursula and Daniel Mangoubi, and Bob Seeley.** Want to help? Please contact Frank Bachner at [fbachner@msn.com](mailto:fbachner@msn.com) or by visiting our website under the volunteer section.

## Please Join Us!

### Crystal Lake Conservancy Volunteer Awards

*September 28<sup>th</sup> at 2pm*

*Paddles and Pumpkins Event -Bathhouse*

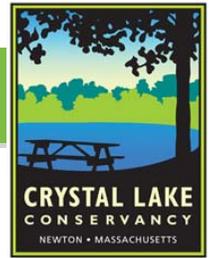
#### Sophia Autor

Sophia Autor is a senior at Newton South High School. She is the captain of the Newton South Varsity Swim Team and is very excited to be captaining the Newton South Girls Ultimate Frisbee Team. Sophia and her friends started the Frisbee team at NSHS last year. She competes in triathlons and organized a triathlon team with her swim-team schoolmates. She expresses her artistic side with an independent Art study in Mixed Media at school. Last year her main project for the year was a 3D model of a scene from Maurice Sendak's "The Wild Things." Sophia has focused more on the humanities in high school but plans on an applied science major in college.

As an outdoors person, Sophia has spent countless afternoons at Crystal Lake during the summer. In 2012 when the Lake experienced an algae bloom, she volunteered to learn what caused the algae bloom and to help prevent outbreaks in the future. Sophia believes the CLC has turned out to be a great opportunity to find out more about Crystal Lake and learn practical methods to keep the lake healthy and swimmable.

#### Hal Lichtin

Hal Lichtin has been a resident of Newton for his entire life, and has lived within walking distance of Crystal Lake for the last 23 years. A graduate of Newton High School, the University of Rochester, and Boston University, Hal worked for over thirty-five years in the software technical writing field. Recently retired, Hal has been devoting more of his time to volunteering with organizations such as the Crystal Lake Conservancy. He assisted in the visual survey of the Crystal Lake watershed and assists regularly with the water testing. His other interests include photography, amateur choir, Scottish country dancing, reading, and taking courses at Boston University.



## Water So It Counts

*By Brad Baker, White Oak Consulting*

Our plants need water. But water helps a plant only when it is within the grasp of its root zone. The soil of the root zone can hold water only to its saturation point; any more water is wasted through runoff. Drip irrigation was developed to help combat this. But at our homes, where we probably do not have this technology, it is critical that we learn to water effectively. We can ensure that every drop will soak into the soil. The frequency is at most once daily, and usually once per week after a couple of weeks of deep root growth. But it will depend upon whether the plant is dormant and whether you've recently had rain. So observe the results and adjust the number of seconds of watering for each individual specimen in your landscape.

In addition to watering precisely, with planning we can help to direct the flow of rain water. As rain falls, gravity pulls the water through the trillions of microscopic tunnels in the soil. These tunnels, kept open by the life that always is on the move in the soil, also pulls oxygen into the soil through the vacuum created in the wake of the rainwater. In this way, water and oxygen can move deep underground. This gives us an opportunity to support life with every hole we dig or drill. We need only to provide an air supply. We do this, for example, by building garden beds on top of existing plants such as weeds or lawns, or even over pipes surrounded by gravel in a parking lot, all of which allow air flow.

### Here's how:

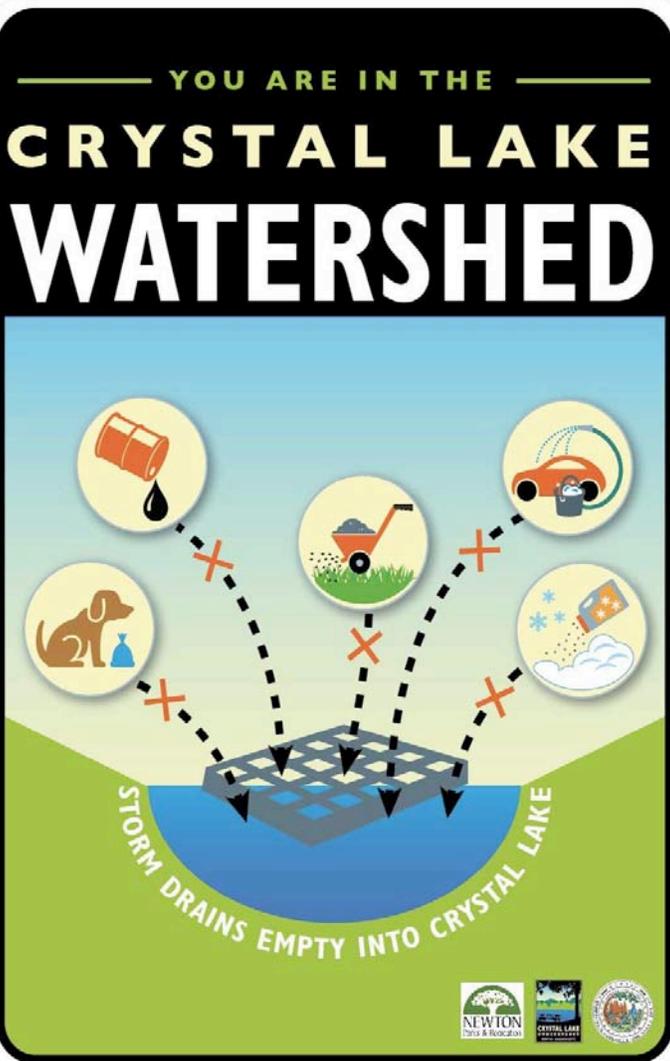
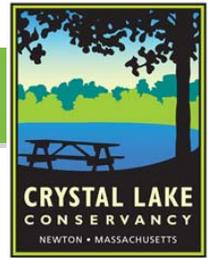
- Aim the water downward, from above the root ball, to bore a water column to where it is needed at the root—not on top of the soil where it will evaporate. Water molecules attract each other, so the rest of the water will follow that first drop, helping the careful gardener to direct the flow to the deep, thirsty roots.
- If you use automatic sprinklers, turn them on 10 minutes before a thunderstorm; the soil must already be wet so the heavy rain will follow and soak in, rather than run off into the watershed.
- Watch the video *How Water Moves through the Soil*, produced by the University of Arizona College of Agriculture. You can order the video at their website: <http://ag.arizona.edu/ecat/multimedia/video-featured.html>.

### What You Should Never Do:

- Avoid roto-tilling and plowing, as these destroy the soil's microscopic tunnel drainage network.
- Do not drive vehicles over the ground unless you first protect the area against soil compaction with a temporary plywood road.
- Do not wet the leaf of a plant at any time if possible, but especially on a sunny day; the moisture will promote disease and insect populations.

### State Law- NO Phosphorus - Restrictions on Lawn Fertilizers!

Effective January 1, 2014, Massachusetts restricts the use of phosphorus in lawn fertilizers. Phosphorus in fertilizers contributes to algae blooms in rivers, streams, lakes and ponds and has impacted Crystal Lake directly from storm runoff from surrounding watershed properties. Phosphorus will only be allowed if a new lawn is being established. Lawn care companies and property owners must ensure that no fertilizers are being used with phosphorus. Fines and penalties will be issued for those selling or using inappropriate fertilizers. "Organic" does NOT imply there is no phosphorus. Please check the labels and products used by your landscapers.



### What are these new signs in my neighborhood?

Our Crystal Lake is a beautiful amenity and recreational resource in our neighborhood. Our neighborhood is also the Lake's watershed. All the water in the lake comes from rainstorms, either directly into the lake or via the storm drains that carry water from yards, driveways and streets, through pipes, into Crystal Lake. These new signs are to remind both residents and visitors how they can help care for our beautiful lake.



**Lawn Care:** Consider that anything applied to your lawn will eventually run off into Crystal Lake. Phosphorus is no longer permitted in fertilizers, is not needed for existing lawns, and is the main cause of the lake's algae blooms.



**Pet waste:** Responsible dog owners pick up their pet's waste and dispose it in the "trash". However, many dog owners put the bagged waste into the storm drains, which washes into Crystal Lake, increasing bacteria levels that can be harmful to swimmers and stressing the lake's biology.



**Washing cars:** Many soaps and detergents contain phosphates and other nutrients which increase algae blooms and is just as troublesome for the lake as phosphorus in fertilizers. Much better to take your car to the car wash to protect Crystal Lake.



**Oil and Chemical disposal:** Every storm drain in the watershed has been stenciled with a reminder that it drains to Crystal Lake. Putting oil, paint or other chemicals into the drain is very harmful to Crystal Lake.



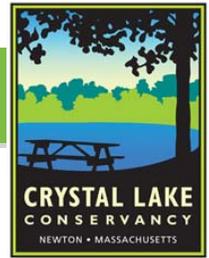
**Winter driveway/sidewalk salt:** Salt in the winter will run into the storm drains, or even into the ground, and have serious impact on Crystal Lake. Please take care to use sand or non-salt alternatives. DPW is instructed by the City to provide low salt/no salt street sanding in the watershed.

### What Are These New Signs Around Crystal Lake?

Our neighborhood is also the Lake's watershed. All the water in the lake comes from rainstorms, either directly into the lake or via the storm drains that carry water from yards, driveways and streets, through pipes, into Crystal Lake. These new signs are to remind both residents and visitors how they can help care for our beautiful lake. Look for them on poles on your street. **IF YOU HAVE A SIGN - YOU ARE IN THE CRYSTAL LAKE WATERSHED!**

**WHAT YOU DO EVERY DAY**

**ON OR AROUND YOUR PROPERTY WILL IMPACT CRYSTAL LAKE!**



## Renew or Join the Crystal Lake Conservancy

Stay informed and help sponsor our environmental testing and our work for a healthier lake!

**Name:**

\_\_\_\_\_

**Address:**

\_\_\_\_\_

**City:** \_\_\_\_\_ **State:** \_\_\_\_\_ **Zip:** \_\_\_\_\_

**Telephone Number:** \_\_\_\_\_

**E-mail Address:**

\_\_\_\_\_

I am paying by \_\_\_ enclosed check

Please note: If paying by credit card, please go to [www.CrystalLakeConservancy.org](http://www.CrystalLakeConservancy.org) and use the Paypal link.

- |  |   |
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| <input type="checkbox"/> Individual membership (\$40)  | <input type="checkbox"/> Patron membership (\$500)                |
| <input type="checkbox"/> Family membership (\$75)      | <input type="checkbox"/> Non-profit membership (\$100)            |
| <input type="checkbox"/> Supporting membership (\$150) | <input type="checkbox"/> Corporate membership (\$1000)            |
| <input type="checkbox"/> Sustaining membership (\$300) | <input type="checkbox"/> Conservation Council membership (\$5000) |

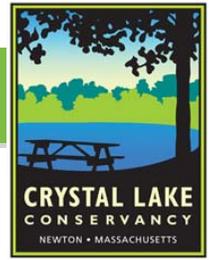
If you wish to pay by check, please send your membership and contact information to:  
The Crystal Lake Conservancy, PO Box 610038, Newton Highlands, MA 02461

### Welcome to Our New Board Member

Robin Saragian has recently joined the Crystal Lake Conservancy board. Robin is an accomplished executive assistant and event planner with extensive administrative experience and expertise supporting executive management while working for life science companies such as Dyax, Novartis and Ardaís. Robin is the current founder and owner of PAWSwithTAILS that she developed into a multi-service pet care business since 2008. Robin also serves as an Assistant to Director/Aide for the City of Newton Recreation Department where she assists with recreational activities for adults and children with various special needs leading to Special Olympics. She is also active in Special Olympics of MA, Owl Diner Charities (terminally ill patients) and the Salvation Army.

### Congratulations to Board Member Beth Wilkinson

Beth Wilkinson, a current board member of the Crystal Lake Conservancy, was recently elected President of the Newton Conservators. She served as co-president of Newton's citywide PTO Council and was elected President of the Newton Free Library in 2008. An avid gardener and bird watcher Beth was certified as a Principal Master Gardener in 2003 and became an active member of the Massachusetts' Horticultural Speakers' Bureau. She became a volunteer for the New England Wild Flower Society and completed their certificate in Field Botany. She was a member of the Ward 6 Democratic City Committee in 2005 and also was appointed to the Newton Centre Task Force that year. In 2008, she became a Plant Conservation Volunteer, joining with others to survey rare and endangered plants. In 2010, she joined a team updating the Garden in the Woods's rare plant garden. Beth also was a Senior Editor in Houghton Mifflin's textbook division. Beth's love of lakes began during her childhood in Minneapolis, where she spent countless hours in and around the three lakes near her home. She and her husband, Hugh, now live one block from Crystal Lake and enjoy walking their dogs around the lake.



## Our Great Blue Heron

By Beth Wilkinson



Even in flight, the great blue heron keeps his head held back against his shoulders. He has specially shaped vertebrae that allow him to curl his neck back on itself to form its characteristic S-shape. Like his motion on land, the heron's flight is slow and steady: the beats of his wings don't move much above the horizontal plane of his flight path.

I refer to our Crystal Lake bird as "he," but there is no way to know whether he really is male. Both sexes of great blue herons look the same. In general, the female birds are smaller, but it's hard to judge when seeing only one bird. Some ornithologists claim that the length of the ridge along the upper bill can be used to determine sex, so if you get close enough to judge its length, let us know whether it's closer to the 5.5" average for males or the 4.8" average for females.

### *Harry the Local Heron*

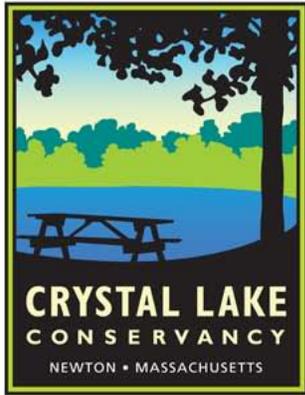
Some observers wonder why "our" great blue heron lives alone on the lake. That's typical for his species. They gather at breeding time and migrate in groups of ten or more, but during the rest of the year, they live alone. Our heron doesn't migrate: Massachusetts, like most of the United States, provides a year-round habitat for great blues.

For years, there has been one great blue heron at Crystal Lake. Is it the same bird every year? Great blue herons can live to be 15 years old, and one was known to live for 24 years, but 6 to 8 years is the norm for birds in the wild. All great blue herons have blue-gray plumage, black and white striped crowns, long yellow bills, and rusty-colored thighs. Keep your eyes open for some distinguishing mark that may let you recognize whether it's same bird next year.

Great blue herons have rough, croaking voices—almost like those of the frogs they eat. Yes, great blue herons eat fish but also frogs, reptiles, and even small mammals. They get extra nutrition from the calcium in the bones of their prey, and their stomachs have extremely acidic secretions to dissolve those bones (thus preventing stomach punctures). Great blue herons are able to digest almost everything they eat, but—just like hawks, owls, and other large birds—they cough up pellets of undigested materials. The heron pellets can be one to two inches long and look like little bundles of matted fur.

Great blues are able to hunt at night because of special photoreceptors in their eyes that give them good night vision. They're active in the daytime as well. During the summer, however, our heron is known to rest and to show off his magnificent wingspan during the day: when the docks are in the water of the swimming area, look for him sunning his wings at the end of the far dock.

Help us stay green AND save paper and printing costs—sign up for our electronic newsletter by going to our website at [www.CrystalLakeConservancy.org](http://www.CrystalLakeConservancy.org)



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## Red's Best:

### Entrepreneurial Fisherman Attributes Inspiration to Crystal Lake

*By Jared Auerbach, founder of Red's Best*

The origins of Red's Best started on Crystal Lake. As a little kid I was always drawn to the water and the idea of fishing to feed my family and neighbors. Nobody in my family history has anything to do with the seafood industry but there is nothing else I could ever imagine doing.

As a child I was lucky enough to grow up a few blocks from Crystal Lake, and somehow grew up in school with a group of like-minded friends. We spent countless hours fishing, swimming and skating on the lake as kids growing up. My mother tells a story that when I was very small and caught my first sunfish I walked all the way home with it still on the end of my fishing rod and presented it to her like a hero that just fed his family. She told me to bring it right back to the lake and get rid of it!

Through college I remained addicted to fishing and the outdoors. Right after graduating from college I packed my things and headed out to the Pacific Northwest to take a job on a commercial fishing boat heading to Alaska. At the time I figured if I could get paid to go fishing what could be better than that. Commercial fishing in Alaska for three seasons and later in ports around New England led to an interest in the business side of the industry, which eventually led to **Red's Best**.

Today Red's Best has three facilities on the waterfronts of Boston, Chatham and Martha's Vineyard. We employ over 40 people and distribute fish around the world. Our mission is to sustain the small fishing fleets of the United States and to build networks to keep fish local whenever possible.

Check out Jared's company at Red's Best at <http://www.redsbest.com/>.