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News from Crystal Lake Conservancy

Fall 2012

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.

Crystal Lake Conservancy Annual Meeting

October 25th; 6:45pm – 8:45pm

Hyde Community Center

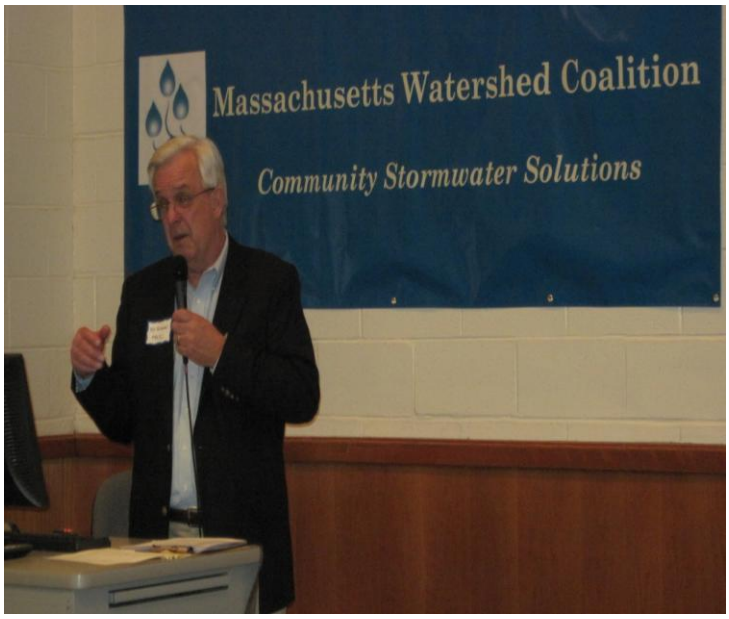
Guest Speaker: Ed Himlan, Executive Director, Massachusetts Watershed Coalition

Home Remedies

Rain that runs off from homes, lawns, driveways and parking areas carries lots of pollution. This dirty water flows to streets that dump into streams and lakes. Over time, aquatic life vanishes, lakes fill with weeds, and high bacteria counts can pose risks for people.

Ed Himlan, executive Director of the MA Watershed Coalition, will share a short slideshow on simple, low-cost ways to cleanse runoff:

- Look at your property to see where the rain goes
- Build rain gardens and bio-swales
- Plant filter strips and groundcover buffers
- Benefits and options for porous paving
- Create rock-filled soakage trenches
- And more…



Putting rain in the ground will prevent pollution and reduce costs for in-lake treatments

MWC Executive Director Ed Himlan has thirty years' experience in watershed management and education. Ed has expertise in water protection planning; public policy; grassroots groups; local assistance; and public presentations. He has served on many state and federal advisory groups, as well as the boards of local conservation organizations, including the Lake Samoset Property Owners Association.

Ed has helped municipal officials, businesses, homeowners, contractors and community groups to plan, design and construct more than sixty rain gardens and other storm water solutions. The educational materials and runoff remedies created by these activities offer practical examples and guidance that can help people to improve the health of local streams and lakes.

Please visit www.commonwaters.org for further information about MWC community services.

- Co-Sponsored by Green Decade, Newton League of Women Voters and Newton Conservators.

To learn more about the Crystal Lake Conservancy, visit our website at www.CrystalLakeConservancy.org

Volunteer Awards 2012

The Crystal Lake Conservancy will present our first Volunteer Awards to individuals who have demonstrated a real dedication to helping Crystal Lake. This year the awards will go to Frank Bachner and Irwin Jungreis. Frank has worked diligently often weekly over the past 3 years collecting visibility and temperature data at various depths and multiple locations utilizing a boat and GPS. Irwin has utilized his kayak and collected samples for bacteria and various chemicals and nutrients. This work was often conducted with short notice during or after the rain, often in a time sensitive manner in order to allow G&L Labs to test the samples only a few hours later.

Because of their dedication, our testing and sampling initiative has succeeded in collecting the necessary data points to create a "picture" of what might be occurring in Crystal Lake. The Crystal Lake Conservancy wants to honor and thank such generosity of time and energy on behalf of the community. **Please join us as we recognize Irwin and Frank at our Annual Meeting on October 25th at 6:45pm-8:45pm at the Hyde Community Center.**

Frank Bachner

Dr. Frank Bachner was born in Brookline, MA and moved to Newton when he was eight years old. He attended the Mason School, Weeks Junior High and graduated from Newton High in 1957. Upon graduation he entered MIT where he received his bachelor and doctorate degrees in materials science. After serving two years as a Captain in the Army, Dr. Bachner worked for 15 years at the MIT Lincoln Laboratory and then spent several years working in the microelectronics industry both in Boston and subsequently in San Diego. He has been an industry consultant specializing in advanced semiconductor packaging and assembly for the past several years. While growing up in Newton, Dr. Bachner swam, fished and skated at Crystal Lake. His children, whom he raised in Newton, also swam and fished in the lake and even skated there when they were very young. Now semi-retired, Dr. Bachner enjoys taking his grandchildren swimming and fishing at Crystal Lake and working to preserve the lake for their children.

Irwin Jungreis

Irwin Jungreis spent much of his professional life putting his mathematical background to good use as a software developer, manager, and entrepreneur in the Computer Aided Design industry, creating software for mechanical engineers and architects. Five years ago, having accomplished everything he wanted to in the software industry and attracted by the exciting revolution taking place in the life sciences, he decided to launch a new career as a biologist. He is currently engaged in comparative genomics research at MIT -- trying to understand the meaning of the genome by comparing genomes of different species.

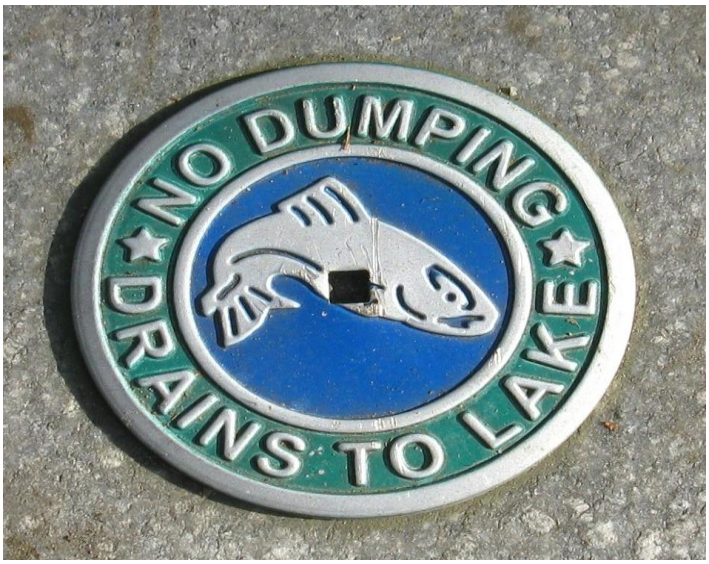
Irwin and his family moved to Newton five years ago, at the same time he was starting his new career, and they had the good fortune to find a property abutting Crystal Lake. They frequently swim and boat on the lake, and they enjoy its beauty year-round. Irwin and his wife expect to spend the rest of their lives here, and perhaps their children will as well. They are very concerned about the algae blooms that have become more frequent in the last few years. Irwin is hoping that the research being conducted by the Crystal Lake Conservancy will identify the cause of the blooms, guide efforts to prevent them, and keep the lake healthy for many generations into the future.

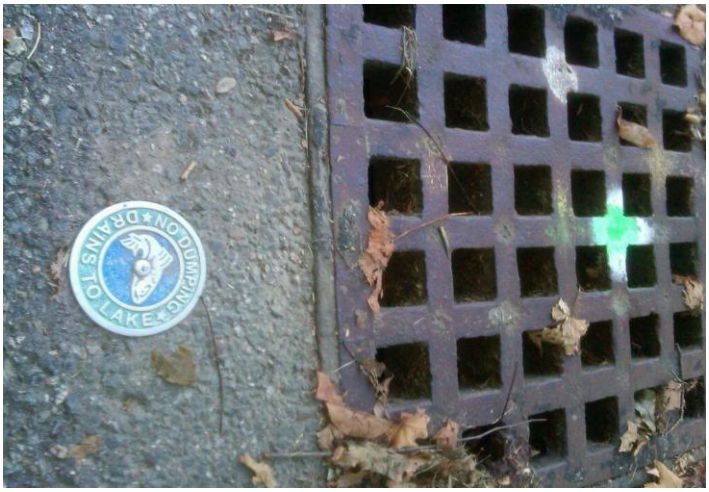
The Photography of Marcie Scudder

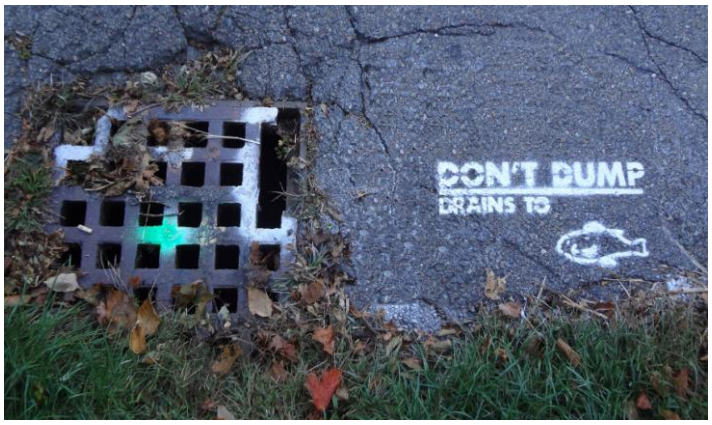
Each of our Volunteer Awardees will receive a framed and matted image of Crystal Lake from the dozens of images of light, wildlife, seasons, weather and water captured through the lens and patient eye of Marcie Scudder. Her amazing images will welcome the attendees at our Annual Meeting on October 25th at the Hyde Community Center.

Marcie's artistic photography of Crystal Lake reminds us of its magical powers to create and evoke emotions of joy, peace, fun, beauty and community. To enjoy more images of Crystal Lake, please visit Marcie's website at: http://www.marciescudderphotography.com/home/category/crystal-lake

Storm Drain Medallions and Stencils







If you see these symbols by a storm drain in the Crystal Lake Watershed DON'T DUMP!!!

Dog waste, chemicals, pesticides and lawn fertilizers, and dirt dumped into these storm drains are polluting Crystal Lake.

Under the guidance of Maria Rose, Newton Environmental engineer, volunteers from the Crystal Lake Conservancy, Friends of Crystal Lake and Open Crystal Lake undertook a collective effort to identify and label all the storm drains in the Crystal Lake Watershed.

Volunteers included Karen Bray, Michael Goldman, Schuyler Larrabee, Lisa Rosenfeld, Jeffrey Rosenberg, Barbara Wales and others.

We hope these labels will alert the community that these are not sewer lines but storm drains whose contents directly flow into Crystal Lake via seven different outfalls.

Help Keep Our Lake Clean!

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

Message to all residents in the Crystal Lake Watershed

As you are aware, Crystal Lake has suffered an early algae bloom resulting in a premature shut down of the swimming season. The Crystal Lake Conservancy (CLC) has been monitoring several locations across the lake for various bacteria, phosphorus, nitrates, herbicides, pesticides, water visibility and temperature with help from dedicated volunteers and Larry Beals, our limnologist, for the past three years. The City tests only the bathhouse swimming area for bacteria and algae blooms.

Algae blooms are normal. Algae blooms thrive in water rich with nutrients such as phosphorus. Normal lake activity during the spring and fall involves surface water layers cycling downward and deeper water layers cycling upward stirring up phosphorus-rich debris from the lake bottom, which can cause a short bloom.

Why is this algae bloom different? Because it is occurring much earlier than usual and lasting longer due to a combination of extra nutrients from the watershed run-off, prolonged heat, low rain, warm nights and warm preceding winters.

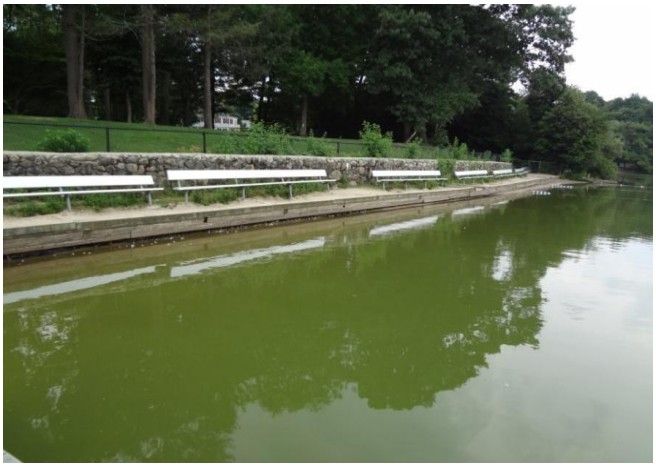
WHAT CAN YOU DO TO HELP CRYSTAL LAKE?

It is important for you to realize that your household is in the Crystal Lake Watershed area. What does that mean? That means all the runoff from your property including lawn treatments, (chemical or manure), car detergents, and household chemicals actually get washed down the street into the City catch basins (storm drains). Contents in the catch basins then drain into the lake via seven different outfall areas.

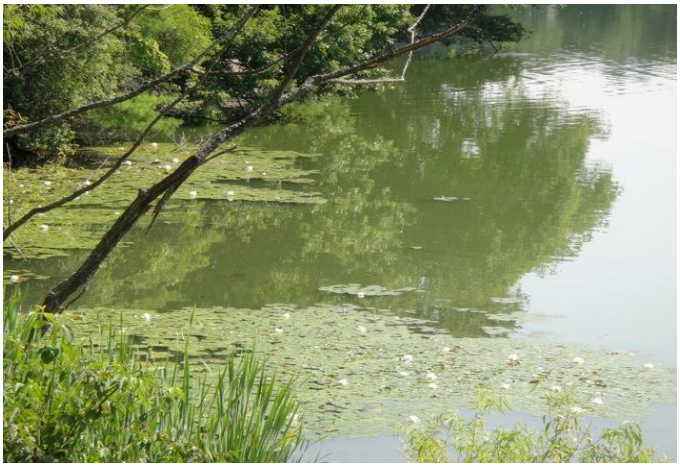
What you do at home directly affects Crystal Lake!
We know you care about this lovely asset in your neighborhood. We wanted to encourage you to read the articles contained within this newsletter and consider **HOW YOU CAN HELP DECREASE THE IMPACT ON CRYSTAL LAKE**.

The picture on the front of our newsletter shows Crystal Lake at its finest. The pictures below show the lake at its poorest and most vulnerable. ***Help us help Crystal Lake.***

To learn more about Crystal Lake please visit www.CrystalLakeConservancy and www.newtonma.gov/parks.



Algae blooms decrease Crystal Lake's visibility. Visibility less than 4 feet affects water safety and swimming is banned.



An abundance of algae adds a characteristically "green hue" to the water.

Storm water Management Glossary

Below are some common terms that are often used when discussing storm water issues.

Bio-retention: Method of catching and storing rain water runoff using certain landforms and plantings such as vegetated wetlands, rain gardens, green roofs.

Biofiltration swale or Bioswale: A long, gently sloped, vegetated ditch designed to filter pollutants from storm water. Grass is the most common vegetation, but wetland vegetation can be used if the soil is saturated.

Catch basin: A device to slow or screen storm drainage in order to separate solids that can then be removed.

Conveyance system: Drainage facilities and features that collect, contain, and provide for the flow of surface and storm water from the highest points on the land down to the receiving water. Conveyance systems are made up of natural elements and of constructed facilities.

Drainage facility: A constructed or engineered feature that collects, conveys, stores or treats surface and storm water runoff. Drainage facilities include but are not limited to constructed or engineered streams, pipelines, channels, ditches, gutters, lakes, wetlands, water quality treatment facilities, and erosion and sedimentation control facilities.

Embankment: A raised structure of earth, gravel, or similar material to form a pond bank or foundation for a road.

Eutrophic: A condition of a water body in which excess nutrients, particularly phosphorous, stimulate the growth of aquatic plant life usually resulting in the depletion of dissolved oxygen. It often results from runoff carrying fertilizers. Also referred to as "Nutrient loading."

Impervious surface: A hard surface area which either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development; and/or a hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development.

Low Impact Development (LID): Development that employs natural onsite drainage features and landscaping techniques to help control and contain storm water to increase natural recharge and reduce pollution.

Nonpoint source (NPS) pollution: Occurs when rainfall, snowmelt, or irrigation runs over land or through the ground, picks up pollutants, and deposits them into water bodies or introduces them into ground water.

Outfall: A point where collected and concentrated surface and storm water runoff is discharged from a pipe system or culvert.

Rain Garden: A planted depression that allows rainwater runoff from impervious surfaces like roofs, drives, walks, and compacted lawn areas the opportunity to be absorbed.

Runoff: Water originating from rainfall and other precipitation that ultimately flows into drainage facilities, rivers, streams, springs, seeps, ponds, lakes, and wetlands as well as shallow groundwater.

-Compiled by the Environmental Committee of the League of Women Voters of Newton

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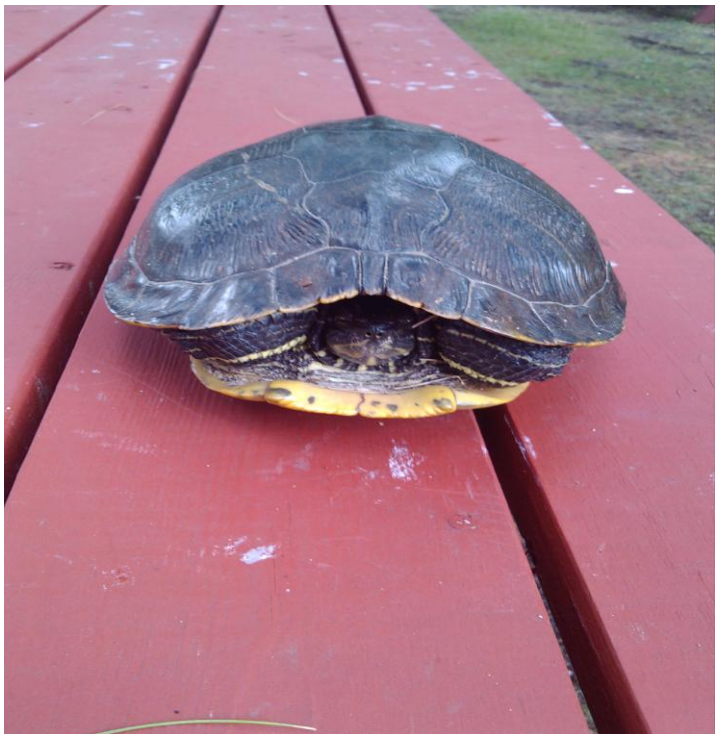
Painted Turtles



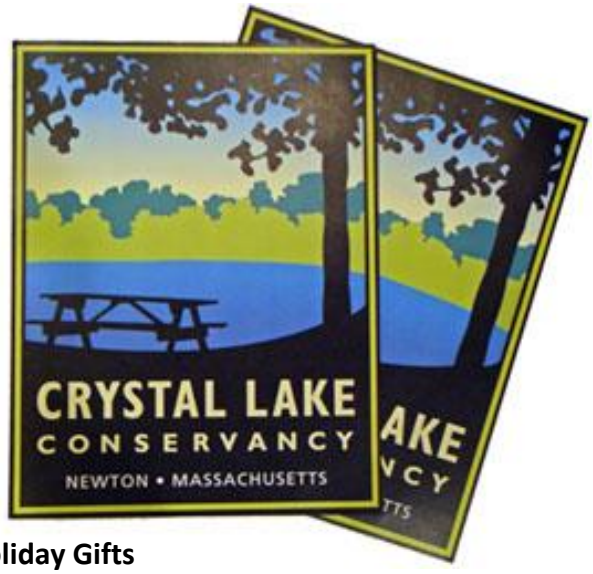
Eastern Painted Turtle taking a break on a picnic table at Crystal Lake Park.

Painted turtles are perhaps the most common and familiar of the turtle species. Every kid remembers picking up or seeing their first turtle! They are found in swamps, quiet streams, and ponds. Painted turtles feed on water plants, insects and small animals. During the summer, you can often find them at Crystal Lake sunning on a log, a rock or a picnic table!

The have a dark, wide and smooth top shell, with the underside edged in reddish orange. The bottom shell, called a plastron, is yellow. The painted turtle also has yellow striped head and legs. All of these colors give it the name "painted".

Females will lay about 6-8 small white eggs in a nest she digs with her hind legs. Painted turtles are shy but hardy and adaptable. They survive in urban areas and even in cold temperatures.

They can be a bit frantic when first picked up but will often retreat into their shell and be quiet until they are left alone and it seems safe to come out of their shell.



Holiday Gifts

Do you know someone who has fond memories of swimming at Crystal Lake and would enjoy a reminder of those experiences? Support our efforts and browse through our merchandise to find that unique gift of note cards (new!), a mug, water bottle, pins, poster, swimming pass lanyard or T-shirt.

Holiday Season Shopping!!

Stock up on CLC merchandise for the Holidays!

New note cards and black T-shirts with our great logo are now available!

Merchandise bearing the attractive CLC logo supports the Conservancy. Check out the website for the full array of products ranging in price from $3.00 to $15.

PRODUCT IMAGES ARE AVAILABLE ON OUR WEBSITE.

Go to www.crystallakeconservancy.org then click on the "Order" tab at the top. If you submit the order form on-line, someone will contact you ASAP for delivery.

NEW! Logo Note Card (4x6) w/envelope: $3.00/card

Swim Pass Lanyards	$3	**Water Bottles**	$15
Shopping Bags	$5	**Logo T-shirts**	$15
Pins	$5	**Black or white**; Sizes:	
Mugs	$10	Adult: Sm, Med, Lg, XL	
14" x 18" posters	$10	Child: Sm, Med, Lg, XL	

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 and use the Paypal link.

___ Individual membership ($40)
___ Family membership ($75)
___ Supporting membership ($150)
___ Sustaining membership ($300)
___ Patron membership ($500)
___ Non-profit membership ($100)
___ Corporate membership ($1000)
___ Conservation Council membership ($5000)

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Crystal Lake "Memories"

Do you or someone you know have wonderful memories and pictures of Crystal Lake?

So many people have rich memories of their first swimming lessons, days as a lifeguard, the wildlife, ice skating, sailing, canoeing, first fish of the season or new friends created over the summer visits to the lake.

If you have early memories, whether over 50 years ago or just last summer, we would love for you to share them with us.

Go to our website at *www.CrystalLakeConservancy.org* and submit your memories! We will compile and share them on the website or in our newsletter as we walk down memory lane with you.

We look forward to hearing from you!

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CRYSTAL LAKE CONSERVANCY
NEWTON • MASSACHUSETTS

Fall 2012

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.

CoonTails

This coontail free-floating aquatic plant (*Ceratophyllum demersum*), pictured at the right, came from the water around the dock at Cronin's Cove. The area around the dock has become filled with these plants, which thrive in lakes that have moderate to high nutrient levels. This high-nutrient condition (often caused by the runoff from storm drains) is not healthy for the lake and can lead to algae blooms like the one that closed Crystal Lake to swimming for the last few weeks of the season. The spiky leaves of the Coontail encircle the stems in whorls of 5-14 leaves that become denser at the ends, giving the plant the appearance of a raccoon's tail. In August of this year, the number of these plants in Crystal Lake increased dramatically.

"Coontail"

What has caused the Coontail plants to multiply in our lake? Heavy rains at the end of July and beginning of August forced runoff from the streets and yards in the watershed through the storm drain system and into Crystal Lake. That runoff contained high levels of the nutrients phosphorus and nitrogen, which combined with the unusually warm temperature of the lake water to foster the high bacteria level that resulted in Crystal Lake to be closed to swimming for the rest of the season. Coontail plants thrive on this phosphorus and nitrogen, and quickly filled the area around the dock at Cronin's Cove. (It often appears in lakes where the level of nutrients is too high.)

Lacking real roots, the Coontail plant can use modified leaves to anchor itself to the sediment at the bottom of a lake, but usually it floats freely just under the surface of the water. When pieces of it break off, each one can grow to form a new plant. Thus, Coontail reproduces quickly and often forms dense mats. It is native to New England and occurs throughout most of North American, but Coontail is a mixed blessing to our lake.

In addition to being an indicator of water that is too high in nutrient content, it can spread aggressively, increasing the murkiness of swimming water. It can prevent sunlight from reaching other plants beneath it in the water and can displace other native plants that are less competitive. On the other hand, Coontail provides benefits for the creatures of the lake. Its foliage and the fruit provide food for ducks, some turtles (including the painted turtles that live in Crystal Lake and the belligerent snapping turtles that also sometimes call the lake home), and fish such as carp. Coontail also provides a hiding place that protects smaller fish from their predators and a home for some of the insects that are food for fish and waterfowl. Like all plants, Coontail can help to oxygenate the water, but when its dense mats decay, that process depletes oxygen in the water and can lead to a fish kill.

We can work together to reduce the levels of nitrogen and phosphorus that enter the water by reducing the use of fertilizer and waste products that enter the lake through the storm drains. If we succeed at this, the Coontail in Crystal Lake should remain at a manageable level that will be good for all the creatures that live there.