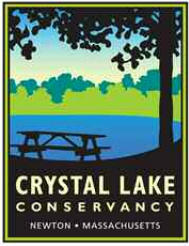


Crystal Lake Conservancy's Second Annual Forum Reports Water Sampling & Survey Results



This summer, with the help of many volunteers, the Crystal Lake Conservancy (CLC) carried out three major activities for Crystal Lake. We conducted a survey of the Crystal Lake watershed, collected multiple water samples during both wet and dry periods, and monitored weekly water visibility and temperature readings.

Watershed Survey

Volunteers noted storm water drainage, vegetation, erosion, land use and any sources of pesticide or herbicide use for all 34 streets in the Crystal Lake watershed. This survey created a baseline understanding of how storm water moves through the watershed, including identifying potential pollution problems. A summary of the watershed survey is as follows:

- Other than some minor erosion, there is nothing visibly egregious occurring on properties in the watershed
- Lake-side observations revealed no visible water quality issues
- Invasive plant species appear to be reasonably under control with minor pockets observed
- Lawn fertilizers and pesticide use could not be accurately assessed via visual observations

Water Sampling

Volunteers assisted with a very involved water sampling program. The goal was to obtain general information regarding Crystal Lake's water quality in order to highlight and address areas that might be affecting the overall health of the lake. CLC's intent was not to test for "swim-ability" of the lake. Water samples, taken from land and by boat by trained volunteers, were collected from eleven different locations around the lake at six different time periods, utilizing techniques. The Locations included eight near storm water drain outfalls, the deepest part of Crystal Lake, the Bathhouse, and an area adjacent the railroad tracks. Samples were analyzed by a State Certified G&L Laboratory, a state-certified lab in Quincy MA. The comprehensive water sampling of Crystal Lake included bacterial analysis and counts (E. coli and Enterococcus); herbicides and pesticides; fertilizer components such as nitrite, nitrate, ammonia and phosphorus, and arsenic.

The results of CLC's sampling generally were as follows:

- Bacterial test results were variable;
- Nitrogen test results were comparatively low and typically below detection limits;

- Phosphorus test results were variable and were elevated in some areas;
- Pesticides and Herbicides were not detected;
- Arsenic was not detected (leaching concerns from the railroad tracks).

Early August sampling showed no detection of phosphorus and acceptable levels of nitrate, and E.coli below the State EPA requirements of Maximum Contamination Levels (MCL) throughout the lake except at Levingston Cove, where all three were present. Levingston Cove has three outfalls for storm water pipes that lie very close to old underground sewer lines that may be affected by exfiltration and may be one of several potential sources contributing pollution to this area. The City did perform some repair work during the summer that seemed to improve subsequent sample readings. Enterococci were present throughout the lake except near a broken outfall pipe by the condominiums, where no direct runoff appears to enter the lake. The volunteers gathered samples again in late August, when the E. coli levels were now acceptable everywhere except at Levingston Cove. Enterococci continued to be high at Levingston, Cronin's and Lake Terrace. Cronin's Cove has two outfall pipes, and Lake Terrace has one. Phosphorus and nitrate were also detected at Cronin's Cove with some phosphorus at the Bathhouse.

Samples were taken twice in September. E. coli levels were acceptable throughout the entire lake. Enterococci exceed limits once near the condominiums and once at Levingston Cove. No nitrogen was detected any where, but some phosphorus continued to be detected at Cronin's Cove and the Bathhouse. The last set of samples was taken in early October, when E. coli levels were acceptable throughout the entire lake. Enterococci levels had decreased and were acceptable throughout the lake except at Lake Terrace, where only a small amount was detected.

Water Testing/Monitoring Program:

For the second year running, a group of volunteers conducted weekly monitoring of the Lake. Both temperature and visibility readings, at three different depths, were recorded at six different sites around Crystal Lake. The testing began in late July and continues into November. Water visibility was excellent and there were no unusual temperature changes, especially in the lower, cooler levels of the lake. No algae blooms were detected during the summer and early fall; however, a potential bloom appears to be underway in November.

Recommendations for the Future for Crystal Lake and its Watershed

The Crystal Lake Conservancy is committed to being an active steward of Crystal Lake. CLC's initial water sampling

and watershed evaluation is the first step in a long-term effort to protect and improve the water quality. It is clear that additional data are necessary to obtain a more complete picture of Crystal Lake.

With that in mind, CLC is considering implementation of the following actions:

- Continue monitoring the Lake especially before and during storm events;
- Begin an education program to help residents understand ways to reduce their impact on the lake;
- Develop programs in collaboration with the City to reduce pollutant loads entering the lake;
- Search for grants and funding to implement recommendations.

Crystal Lake is a beautiful asset within Newton. It is within the community's interest and power to insure its long term health and enjoyment. ■

→ *Janice Bourque, Co-President, CLC*

Website Update and Electronic Newsletter

On our website (www.Newtonconservators.org), members now can use the Membership Options to "Update Profile" in addition to "Join" and to "Renew". Update Profile lets you update your email address, mailing address, email preferences, and it also addresses the following important issue:

How do you want to read our newsletter? You now have the option to save paper by reading your newsletter online. If you prefer not to receive the hard copy newsletter in the mail (we'll send you email when the newsletter is available on our website), you can unselect the "No" box and select the "Yes" box instead.

To Update Profile, you will be prompted to enter your email address on file and your password. (A "forgot password" link is available: a new password will be sent to the email address on file. You can use the new password to log in, then select the "Change Password" link on the profile page to change to a password that is easier to remember.) Make the applicable edits, and click the Save button.

Members who are Family, Sustaining, Donor, or Patron type members have one additional step if they want to update their mailing addresses. Follow the "Update Family Profile" prompt to update mailing address or other info for the family.

You can also renew your membership online (Renew option). This assumes you will remain at your current membership level: if you want to change it, you will need to contact us via the website. However, you can always choose the option "Support Our Work" to make a year-end additional tax-deductible gift to Newton Conservators. It would be much appreciated! ■

If you haven't renewed your membership already, now is the time. And consider a gift for a conservation-minded friend.



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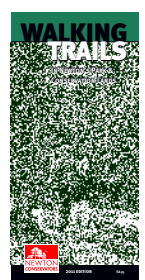
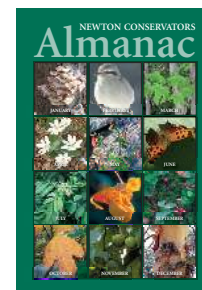
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