



# THE LAKE MATTERS

May 2015

The official publication of the Lake St. Catherine Conservation Fund, Inc.  
PO Box 52, Wells, VT 05774 [www.lakematters.org](http://www.lakematters.org)

Issue No. 9

## Aeration Success Continues With Greater Depth... And An Apparent Bonus

After two and a half seasons of aeration, the breakdown of sediment continues, and the result is a nearly two-foot increase in the depth to soft bottom in the aeration zone. Added benefits, of course, are the healthier environment for fish due to the increase in oxygen, the removal of odor causing compounds such as nitrogen and hydrogen sulfide, and greater water clarity.

Now it appears that a further benefit—one that we had hoped for based on our studies and observations of aeration systems—has occurred. And that is the reduction of Eurasian milfoil. Visual inspections and observations late last summer clearly showed that the beds of milfoil had thinned out considerably on the east side of Little Lake, (in and outside of the aeration zone). One theory, (backed up by extensive studies on lakes in Michigan) is that the aeration has reduced the available nutrients and changed the conditions required for healthy milfoil growth. Check out the video on our website, [www.lakematters.org](http://www.lakematters.org) that clearly shows this positive change.

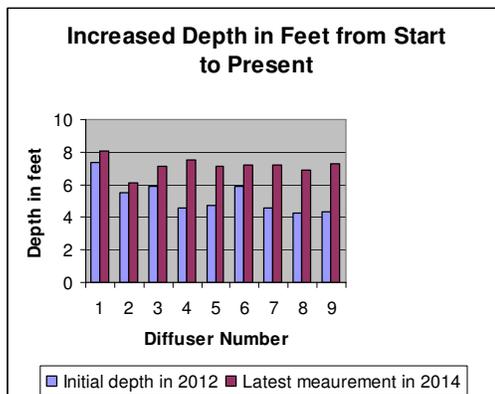


*The northeast corner before aeration*



*Northeast corner after aeration*

The graph below illustrates the improvement in depth since the inception of our aeration system in 2012, with an average increase of 1.93 feet. The diffuser sites with the least improvement are those where there was less sediment to start with. The chart displays the actual number of feet of increase in depth at each of the nine original diffusers.



Diffuser	7/31/2012	9/13/2014
1	7.33	8.1
2	5.5	6.1
3	5.92	7.1
4	4.58	7.5
5	4.75	7.1
6	5.92	7.2
7	4.58	7.2
8	4.25	6.9
9	4.33	7.3

Last year with the state approval, we added three more diffusers. The initial monitoring of those sites is equally encouraging, with measurable increase in depth in less than a full season.

# President's Letter

We wish to thank all of our members for their continued support towards the restoration of Lake Saint Catherine. 2014 has been our most successful year in our five year history. Our most important success is progress in deepening parts of Little Lake. The 8-acre aeration zone along the eastern shore is on average nearly 2 feet deeper, not just at the diffusers but also at the monitored mid-points in the aeration zone. Even more encouraging is the change to the lake north of the aeration zone. In a visual survey late last summer, we observed that weed congestion was greatly reduced 10 acres north of the aeration zone with some areas clear to a 'grassy' soft bottom. We have moved forward and applied for additional permits to implement aeration in other portions of the lake.

We received a permit from Vermont Agency of Natural Resources to perform hydraulic dredging for the northwest portion of Little Lake. This will be a prototype test of hydraulic dredging and seems particularly appropriate for the northwest corner of Little Lake. Our tests show that inorganic content is highest in that corner and physical removal is the most effective way to begin restoration there. But we expect to complement that initiative with aeration to reduce the organic material through an aeration project on the western shore, beginning as early as this summer.

We finished a test breeding weevils in Little Lake this summer. Austin Reed of Integrated Milfoil Management, Inc. created a weevil farm in fish tanks off the lower channel. While a small population was established near the Wells Town Park, the project demonstrated that while weevils are present in Lake Saint Catherine they are not a strong population due to a relatively weak milfoil population — a good thing! Based on these results we do not anticipate further weevil projects.

We recognize weed problems are still an issue at many shorefronts and floating on the surface during part of the summer. Each year we assist our members in acquiring hydro-raking along their shorelines, and last year we also sponsored a hydro-raking operation at the newly developed Wells Lakeside Park. Additionally, we are planning to purchase an EcoHarvester as part of our lake restoration program. This equipment will complement our other initiatives in removing milfoil and reducing the weeds floating on the surface.

Our continued thanks go out to the voters of the Town of Wells for their positive vote for funding once again this year. We pledge to always use these precious funds efficiently for the sake of the restored lake. It was

great seeing many of you again at the Wells Fair this summer at our booth. Everyone seemed to enjoy our water plant tanks. Next year we expect to have more lake illustrations for young and old alike. More information is available at our website: [www.lakematters.org](http://www.lakematters.org). Also visit our posted videos on YouTube with the key words "Lake Saint Catherine aeration." In the interim, please renew your membership and join us in raising funds to restore our precious lake.

Blessings,  
Bill Steinmetz, President

## Hydraulic Dredging Plans Continue

We are continuing to refine our plans for a hydraulic dredging project in the northwest corner of Little Lake. One fortunate development is that a resident along the northwest shore has offered his property as a site for the de-watering bags. This would simplify the project from the original plan which would have required us to run the discharge pipe all the way across North Street to property adjacent to Lake Lucidian. Of course, any change will require approval by the state ANR. Moving ahead with this project will require substantial funding which we are still seeking.

## Thanks to Wells Voters

The LSCCF once again is most grateful to the citizens of Wells, who again this year granted \$10,000 to help fund our efforts to restore the lake. Their show of confidence in our current efforts to restore the lake without the use of chemicals is most encouraging.



## Radar Mapping

The radar mapping of the soft and hard bottoms of Little Lake will be postponed until at least next autumn. The project has been ongoing through the generous voluntary services of Neil Murphy, whose parents-in-law, Director Bill Frye and his wife Tonya, are residents of the Little Lake. Because Neil's company, Geophysical Survey Systems Inc., is in the process of moving its headquarters, the project is temporarily on hold. Once the mapping activity resumes, the company has also offered to process the data using their own software, and will provide us with a complete report of the results of the survey.

## Searching For New Aeration Sites

By Joel Pliner

This year, LSCCF is applying for a permit from VT Agency of Natural Resources to expand the aeration project to the west side of Little Lake and the Lower and Middle Channels. But what about some of the shallow bays on the main lake and Lily Pond at the north end? Which other areas, becoming clogged with nuisance plants and organic sediment, could benefit from aeration?

This March, Joel Pliner went to Lily Pond with Bill Frye and Fran Gilman to collect sediment samples and take depth readings. After drilling seven holes in the ice, they probed with Fran's 40-foot pipe to measure depth to hard bottom and then probed with the Sludge Pro for soft bottom measurement. Even at locations as close as 100 feet from shore, they found hard bottom to be more than 30 feet down. Some locations were deeper than the 40 foot length of rod! Soft bottom, as defined where the sediment layer first offers resistance to the Sludge Pro, was between six and eight feet at all locations.



***Fran Gilman and Bill Frye taking depth measurements at the Lily Pond***

The sediment samples that they collected were taken to Larry Eichler of the Darrin Freshwater Institute (part of Rensselaer Polytech) in Lake George, NY. The analyses showed the seven sediment samples had an average of 42% organic content. All of these factors indicate a similar profile to the east side of Little Lake, where aeration has proven successful, and make Lily Pond a good candidate for aeration.

Last September (2014) Joel took samples from Forest House Bay at its southern end of the main lake. These samples had a relatively low organic content (less than 5%) and soft bottom was only evident in shallow areas close to shore. While aeration would be of overall benefit, it would be unlikely to have much effect on the sediment or flora. Other treatments could be explored.

## Hydro-raking for 2015

This year eleven of our members have applied for hydro-raking at their shorelines. We have arranged with the contractor, Lycott Environmental, to begin work as soon as is permitted by the state Agency of Natural Resources. We expect that will occur about June 16.

Our application on behalf of the eleven members has been received by the ANR, and they have acknowledged it. The next step is for the state to do its on-site inspections to determine if every applicant has a lakefront suitable for hydro-raking. We have requested that these inspections take place in time for the hydro-raking to commence June 16.

During these inspections, the state occasionally rejects some sites for such reasons as scarcity of sediment or weeds, presence of an endangered species, or other environmental objections. People whose properties have been rejected by the state can find out the reasons by contacting Misha Cetner, Environmental Analyst at 802-490-6199 or by email at [misha.cetner@state.vt.us](mailto:misha.cetner@state.vt.us). Once the hydro-raking has begun, we monitor the progress and keep our members informed about where they are in the rotation and when they may expect to be hydro-raked.

Our part in the hydro-raking is limited to the filing for permits and keeping our members informed as to when the hydro-raking is scheduled for their areas. Questions regarding details that pertain to the actual hydro-raking service, especially as regards deposits, costs, and other matters can be answered by Lycott, the contractor. Hydro-rake applicants who have questions about the service itself can call Jeff Castellani at Lycott Environmental, Inc., 21 West Main Street, Spencer, MA 01562. You can phone 800-462-8211 or 508-885-0101, or email at [info@lycott.com](mailto:info@lycott.com).

## Keeping Active at Town Fairs

For the second year in a row, LSCCF had a table at the Wells Variety Day last July right across from the Presbyterian Church. Our display featured aquariums demonstrating the value of aeration. One visitor was particularly interested. He has a place on Lake Morey where similar problems are developing. On his suggestion, we sent information to the Lake Morey Association. Several of our members and their spouses took time to man the booth, greeting visitors and answering questions. Be sure to stop by at our booth on Variety Day this coming summer if it is held again.

We will also have a booth at the Poulltney Days Town Wide Sale on June 6 and October 10. See you there!



## Annual Meeting 2014

Our annual meeting was held last May 24 at 10:00 AM at the Wells Village School. It was good to see a large member presence with many constructive comments and interesting questions. We were enthusiastic about reporting the ongoing success of the aeration program, and President Bill Steinmetz described the progress with a slide showing the increasing depth in the aeration zone.

Director Bob Short described the points of Vermont's shoreline regulations and explained how they might affect lakeshore property owners.

A hot topic was the expansion of the aeration zone, and there was a lively discussion about which areas should be treated in addition to the current zone.

The election of the Board of Directors produced the following results:

*Bill Steinmetz – President*

*David Emmons – Vice President*

*Bill Frye – Treasurer    Lee Evans – Secretary*

*Fran Gilman    Paul Dufresne    Joel Pliner    Bob Short  
KG Lyford    Tina Peterson    Tim Makepeace*

**2015 Annual Meeting – May 23, 10 AM at the Wells Village School...come hear the news, share your thoughts, and vote in the election. See you there!**

## Board Candidate Dennis Stark to Work with Upper Lake Residents

Dennis Stark is a retired research veterinarian who has been building a camp on the Lily Pond since the early 1970's. Dennis is originally from Maryland and spent most of his adult life in either New York City or Princeton, NJ, where he worked in academic and pharmaceutical research. Dennis has traveled to the lake mostly on weekends for skiing and lake activities. Since retirement Dennis and members of his family spend about six weeks on the lake each summer and up for visits almost every month. Dennis (2<sup>nd</sup> from left) is pictured below with son Nicolas, wife Simone and daughter Madeline out on the Lily Pond last summer.



Dennis Stark has been nominated to the Board of Directors

Regarding his candidacy for Directorship, Dennis says, "My concerns and hopes for the lake are to keep it as a recreational resource for all our residents and visitors, so it can enrich the lives of other as it has mine, my families and numerous friends who have spend so many wonderful times here. I hope I can interact with LSCCF as a communication link with interested residents located on the north end of the lake."

## Coalition of Vermont Lakes

As reported in our last issue, the LSCCF joined with other Vermont lake associations last November in the formation of a group called the Coalition of Vermont Lakes, Inc. The Coalition was established to coordinate and strengthen the effectiveness of the lake associations in Vermont. Last year, the Coalition took a proactive approach to H.526 the Shoreline Management Law. We were active contributors at numerous public meetings throughout the State and made sure our elected officials were aware of the issues.

In 2015 TCVL will hold a seminar on lake treatment techniques with emphasis on methods that have been effective in dealing with invasive species and with lake restoration. This first TCVL seminar is planned for this summer and will encourage lake associations in Vermont to share their experiences and discuss ways for more effective initiatives by both the lake associations and the State of Vermont.

Another annual TCVL initiative is the arranging of meetings for lake association representatives with Commissioner Mears of the Department of Environmental Conservation. Such meetings have proven useful in raising issues and discussing mechanisms to conserve and restore our precious water resources in Vermont. This year's annual meeting is scheduled for the autumn of 2015.

The Coalition intends to continue to work through member lake associations to ensure a brighter, restored future for the precious lakes of Vermont.

## What about the Weevils?

For years we have heard about lakes that have successfully used weevils to control milfoil. Our interest in weevils as milfoil controllers led us to meet with several experts during 2012 and 13. One of them was a scientist named Austin Reed who was affiliated with a company called Integrated Milfoil Management, Inc. After being convinced that a weevil program in our lake could be effective, we entered an agreement with Reed to conduct a test on Little Lake.

Unfortunately, in our attempt to grow weevils in our "weevil farm" made of many aquariums, changes in weather and sunlight hampered their growth. Still, a small population was introduced in the lake near the Wells Lakeside Park to enlarge the population of native weevils with hopes that a sustaining population would develop and go to work on the milfoil. However, two

factors worked against the success of the test. First, the population of native weevils was very small, and second, there wasn't enough healthy milfoil to help the population grow.

As a result, we will no longer be pursuing the use of weevils in our efforts to reduce milfoil.

## You can help protect the lake with a Free Buffer Garden!

One of the major contributors to the rapid growth of weeds and algae in the lake is the runoff of nutrients from surrounding properties. Planting a buffer garden along the shoreline is an easy and inexpensive way to help stem this onslaught of phosphorous and nitrogen from seeping—sometimes rushing—into the lake water. And now, it's free for the asking!

Here's what Beth Miller of the Poultney-Mettowee Natural Resources Conservation District says:

### **Wanted! Lake St. Catherine Property Owners**

The summer Lake Education Action Program (LEAP) is preparing to leap into another year of action and local homeowners, as well as the health of Lake St. Catherine, will benefit as a result. The Poultney Mettowee Natural Resources Conservation District (PMNRCD), who designs and implements LEAP, is currently looking for homeowners interested in having buffers of trees, shrubs, and flowers planted on their property at no cost (donations would be accepted if offered).

Buffer plantings are a great way for homeowners to contribute to the health of the lake while also beautifying their own yard. Buffers are effective in increasing water quality because plants and roots essentially form a barrier stopping the movement of nutrients, pollutants, and sediments before they can reach the lake and become a detriment to the water quality. Funded by Lake Champlain Sea Grant, LEAP works to increase local awareness of lake water quality issues, provide assistance to property owners implementing non-point source pollution controls, and provide engaging service-learning opportunities for local high school students.

For more information or to set up a visit contact Beth Miller at [bethpmnrcd@vermontel.net](mailto:bethpmnrcd@vermontel.net) or 802-235-2734. Visit the PMNRCD website at [www.pmnrcd.org](http://www.pmnrcd.org)

LSCCF members Lee and Sue Evans took advantage of the LEAP program several years ago. The LEAP kids did a beautiful job of planting the buffer garden. It looked pretty when it was planted, and now has grown in to really protect the lake. And it's quite lovely when in bloom each summer with day lilies and big hostas. Please get in touch with Beth and join those who help to protect the lake in this way.



*Original planting of the Evans buffer garden in 2007*



*A mature buffer garden in bloom*

**911 House Numbers:** If you are among the many residents whose house number has been changed in keeping with the new 911 Emergency Numbering system, please be sure your number is clearly posted at your property. This is a very important safety measure. Thanks.

**Be an LSCCF helper ...** Our Directors handle more tasks than you could imagine! Besides lots of meetings among themselves, with the Coalition, and with state representatives, they are often out on the lake taking water samples, monitoring water quality, keeping accounts, doing correspondence and clerical work, maintaining equipment, taking depth measurements, keeping the web site up to date, and so much more. They need help! Members can help with so many of these duties to lighten their load. At our meeting on May 23, you will hear about a simple way you can be of great service by becoming a zone captain. It's easy and a great way to get to know other members in your area. We also have a desperate need for folks to help with collecting water samples and helping to monitor water quality. These are simple and interesting tasks that must be done according to the regulations in our permits. Please consider these opportunities to serve your organization. Thanks.



**hanging  
WATER  
gardens**

**Handcrafted by:  
Vermont  
Nature  
Creations**

[vermontnaturecreations.com](http://vermontnaturecreations.com)



**(802) 645-9122**

**THOMAS'S AUTO REPAIR**

FOREIGN & DOMESTIC  
COMPUTER DIAGNOSTICS  
VERMONT STATE INSPECTIONS

KEITH THOMAS

P.O. BOX 589  
MAIN STREET ROUTE 30  
WELLS, VERMONT 05774



# WELLS COUNTRY STORE

*In the heart of Wells, Vermont*

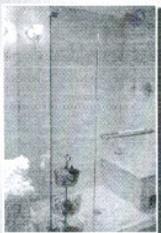
BAKED GOODS ~ DELI  
FINE WINES & UNIQUE BEERS

**802-645-0332**



## The Glass Shop Inc.

3 GENERATIONS OF EXPERT SERVICE  
Design • Fabricate • Install • Repair



### SPRING SCREENING SPECIAL

April 27<sup>th</sup> - May 29<sup>th</sup>  
15% Off Custom Screen Enclosures  
• Screening Repair •

SHOWER DOORS - Frameless or Framed  
Free Custom Design Service

### FREE Estimates!

Elm Street, Manchester Center, Vermont  
Mon.-Fri. 7:30-5, Sat. 9-3  
802.362.3646 • [www.glasspaintshowerdoorsvt.com](http://www.glasspaintshowerdoorsvt.com)



**802-783-8165**  
FULL SERVICE MARINA  
ETHANOL-FREE GAS  
PROPANE REFILL



**Green Mountain  
BUILDING SERVICES**

EPA Certified Renovator

- Carpentry
- Kitchens & Baths
- Stone & Ceramic Tiling
- Decks & Additions
- Windows & Doors
- Siding & Painting
- Complete Home Restorations
- Electrical, Plumbing, & Heating
- Roofing: Slate and Standing Seam Metal

802-287-9541

TIMMAKE@AOL.COM



**802-783-8005**

**OPEN DAILY**

AT THE LAKE ST. CATHERINE MARINA

**GRANVILLE ASSEMBLY OF GOD**

18 Bulkley Avenue, Granville, NY 12832  
[www.granvilleassemblyofgod.com](http://www.granvilleassemblyofgod.com)

**PASTOR BILL STEINMETZ**  
Senior Pastor & Presbyterian Northeast Section

4 Chan Hopson Road  
Wells, VT 05774

[wrsteinmetz@yahoo.com](mailto:wrsteinmetz@yahoo.com)

(518) 495-3363 cell  
(802) 645 9181 home

**Contemporary Worship, Bible Inspired Teaching, Love for Our Community**

