



The Lake Matters

The official publication of the Lake St. Catherine Conservation Fund, Inc. April, 2011 #3

Dear members,

It's been a little over a year since the Lake St. Catherine Conservation Fund was formed. After dozens of meetings, studies on the lake, visitations to other lakes, trips to the state offices in Waterbury, and many, many hours of research, we are enthusiastic about our progress toward our goal of rehabilitating the lake. We are excited to report that our membership roster now includes 96 member families! In this newsletter we will review the many activities and encouraging accomplishments that have been taking place over these last 15 months or so.

Permit Applications Submitted, Approval Likely

After considering various techniques for lake restoration being used around the world, our research has led us to believe that the methods most beneficial to our situation were bioremediation and hydraulic dredging. We came to these conclusions after studying what has been done on many other lakes and seeing firsthand how these procedures have been successful on three other lakes in New York, Lake George, Lake Collins, and Greenwood Lake. What we observed was encouraging: these processes were not only bringing back parts of those lakes to accustomed use of the past, but further; they were creating a healthier environment for the diverse aquatic community.

We have been working with two contractors who are experts in their field. Clean-flo and Lake Savers, Inc. are two concerns that work together in the field of bioremediation, and we have consulted with them extensively. Bioremediation, in its most effective design, uses a combination of enzymes and aeration to reduce sediment and plant infestations. Although our research has shown this to be an effective procedure, we have found the state representatives to be uncomfortable about introducing the enzymes into the lake without a complete understanding of exactly what substances are used. As a result, our test program will have to

use only the aeration component. Still, there is good evidence that aeration alone can accomplish much. In Lake Collins, for example, after an initial application of enzymes six years ago, they were never used again, and the procedure continues to yield good results.

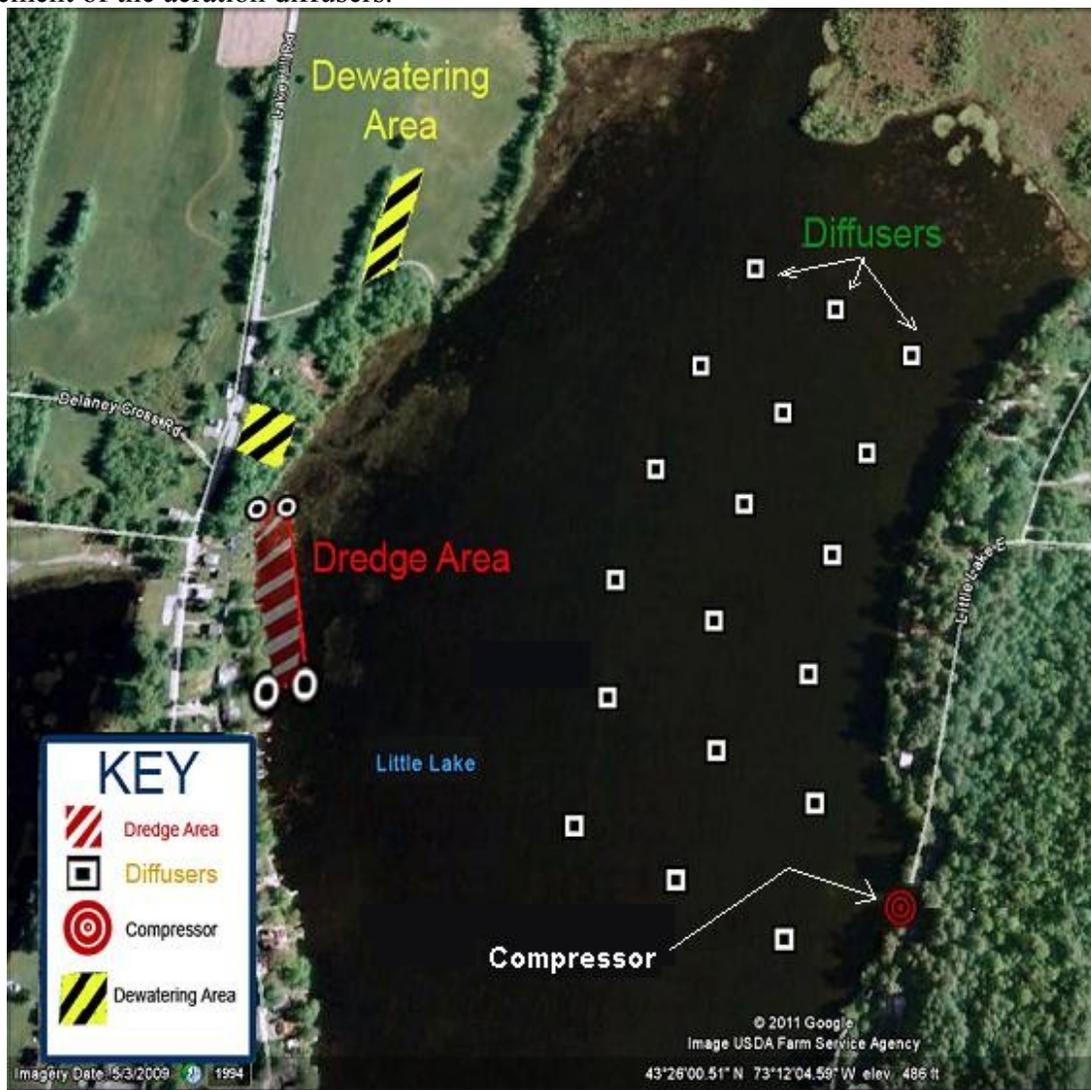
The surface above an aeration diffuser...a gentle, clean crown of soft, white bubbles.



Our plan, designed with the help of John Tucci, president of Lake Savers, Inc, calls for the locating of 18 diffusers through which air will be pumped from a single compressor on shore.

Earth Specialty Products, based in Hudson Falls, NY, is the outfit that has completed various dredging projects successfully on lakes around the country, but most notably on Lake George, a pristine lake which also functions as a reservoir. Basically, the hydraulic dredge is a large vacuum with a powered cutting head. The material that is sucked up is transferred through large diameter tubes to a de-watering site on shore. Typically the material is pumped into a slightly porous bag, through which almost perfectly pure water seeps out and returns to the lake. We have applied for a permit to test this process on a fairly small area in the northwest corner of the Little Lake, the area most in danger of being completely overtaken by sediment and plant life. A successful test of this process would allow us to target others areas of the lake for future dredging. This area was the one recommended by Luke Wilson, the president of Earth Specialty Products. In our discussions with the Vermont Agency of Natural Resources, we are encouraged in our understanding that they will accept the plan and grant the permit.

The map below shows the areas designated for both the hydraulic dredging and the placement of the aeration diffusers.



Lake Depth Study Verifies Little Lake is Deep

Back in 2007, a team of folks who are now all members of the LSCCF conducted a depth survey on the Little Lake to determine the actual depth to hard bottom. At that time, working off of a platform boat, the survey of 17 locations revealed some to be over 30 feet deep. This was reassuring to all of us after being told that the lake was an “impounded wetland,” the implication being that it was never more than a shallow swamp to begin with.



Fran Gilman and Bill Frye drill holes for depth study

We already had determined through our study of ancient maps and early history of Wells that the lake had been around for hundreds of years. This winter, in an effort to confirm those original findings, President Bill Steinmetz and Directors Fran Gilman and Bill Frye took advantage of the frozen surface of the lake and the use of a GPS

locator and measured those depths again.



Fran ready to remove 40-foot probe

What they found was even more remarkable: some parts of the lake were beyond the 40-foot probe that they were using to reach to the bottom! We have forwarded this information to the Vermont ANR at their request and they will add it to their base of data about our lake. We know now that the Little Lake is quite a large body of water, and that our goal to reduce sediment and massive plant growth is ever more possible.

LSCCF Meets with Agency of Natural Resources

On January 28, 2011, President Bill Steinmetz and Directors David Emmons and Lee Evans attended a meeting in Waterbury, Vermont, with members of the Water Quality Division of the Vermont ANR. The LSCCF had arranged this meeting for the purpose of having a dialogue with ANR to

determine what kinds of requirements (data, case studies, etc.) that ANR would need in order to be able to reach a point where they could entertain a permit application for a balanced project in Little Lake—especially involving the use of bioremediation and hydraulic dredging.

The meeting was also attended by Lakes and Ponds Section Chief Susan Warren and five other key ANR managers, a representative of the Lake St. Catherine Association, and noted limnologist Ken Wagner (via conference call), and Luke Wilson of Earth Specialty Products.

Wilson began the session, characterizing the Little Lake as being at a "crisis level." He offered a presentation of his plan for hydraulic dredging, which included a large portion of the Little Lake and the lower channel. Susan Warren expressed some willingness to consider a smaller area in the northwest corner, and wanted details about the de-watering area.

A discussion followed in which ANR gave its perspective on the condition of the Little Lake. It was evident that the state officials do not view the lake conditions as unfavorably as do the residents and the LSCCF membership.

Turning to the topic of bioremediation, limnologist Dr. Ken Wagner (former President of the North American Lake Management Society and the current Editor in Chief of Lake and Reservoir Management) expressed the opinion that he believed aeration may have a positive effect on plant reduction if not sediment reduction. He did agree that a small, sequestered pilot program of aeration would be a good idea for the LSSCF to pursue in the Little Lake.

On the other hand, Dr. Wagner went on to emphatically recommend the use of hydraulic dredging on Little Lake. In his words, "This is clearly a dredging job." He recommended an area of up to ten acres. Dr. Wagner also pointed out that since the efficacy of hydraulic dredging was already generally accepted, no state money would be likely available for a test program.

On the subject of the impact of the watershed on the lake biology, Wagner did not see it as a factor that significantly affected conditions at this point. He said, "If you got rid of your entire watershed, you probably wouldn't see a difference in your lifetime or your children's."

The topic of the age and origin of the Little Lake again came up for discussion, but no conclusion was achieved with ANR maintaining the "impounded wetland" position.

Also covered was the problem of inaccurate reporting of the location and intensity of plant growth, especially Eurasian watermilfoil. These data are used to determine what parts of the lake are treated for weed control; thus the herbicide applications have been improperly located in the past.

Steinmetz then asked if ANR would be willing to participate with the LSCCF in planning a balanced approach to treating the lake, including aeration. While there was no real commitment by ANR, Warren and Kamman seemed willing to consider it. Steinmetz pointed out that so far we haven't seen long-term benefits of chemicals, but that we would want to see them used only as part of a balanced plan for the whole health of the lake.

On a final note, Steinmetz asked about a push for the use of only non-phosphate fertilizers in areas surrounding the lake. Warren said there is currently a bill before the legislature (H-26), and encouraged everyone to help promote it.

Finally, while David Emmons had brought along a number of printed copies of academic case studies showing the benefits of aeration, ANR was unwilling to accept the documents.



Board of Directors Welcomes Rick Dupont

At its April 9 meeting, the Board of Directors voted in Rick Dupont to fill the vacancy created by Bill Rozensky, who was unable to fill out his term as Director. Rick is a resident of the Lily Pond with property on the lake. We are happy to have Rick as a representative of that part of the lake system. As our implementations prove effective, we envision them being used to rehabilitate the bays and the Lily Pond, and become popular strategies throughout the state.

LSCCF Acquires Some Financial Support

We have had the good fortune to obtain some funding over the last year. We applied for three different grants from the Lake Champlain Basin Program, and were fortunate to have one of the grants approved. As a result, we have available \$2755 which we will use to purchase technologically modern equipment to be used in our monitoring program, and essential part of our projects required by ANR. These devices will allow us to measure various characteristics of the lake with GPS accuracy and report the results to ANR as our projects go forward.

We were especially to approve our petition for have come to realize that our the future health of the lake



delighted that on March 1 the town of Wells voted \$12,000. We viewed this as a sign that residents plans are sound, and that we offer real promise for system.

Quite a few of our members have also sent in their \$50 dues for 2011 and all those who have renewed their membership have also generously added tax-deductible contributions to their payment. Three of the Directors have also made large contributions to our treasury. We encourage all members to consider the tax-deductible advantage when renewing their membership. Any amount over \$50 is eligible for IRS deduction.

Of course, in spite of these gains in income, the projects we envision will cost many more thousands of dollars, and we are still seeking other resources. Our fund-raising committee headed by Max Emmons and Al Cote has a number of strategies ranging from raffles to solicitation of contributions from various sources.

October “Lake Summit” May Become Annual Event

In pursuit of its strategy to improve and manage conditions in the LSCCF held its first annual Lake Summit on October 29, 2010, at the Wells Modern Woodmen Hall. The meeting, which was attended by about 80 invited guests, members, residents, and other interested people, served to bring together various parties concerned with lake management to present information and share ideas.

Among those present were members of the Vermont Agency of Natural Resources (ANR), including Susan Warren,

Lakes and Ponds Section Chief; Neil Kamman, MAPP Program Manager; and Ethan Swift, Watershed Coordinator. Larry Eichler of the Darrin Fresh Water Institute of Rensselaer Polytechnic Institute, who has helped with LSCCF monitoring of the lake, was on hand for his expertise. Another invited guest was Eric Palmer, Director of Fisheries. Walter Lender, president of the Lake George Association, came also; the Lake George Association has been helpful in providing information and examples to the LSCCF.

Mayor Barbara Moore from the village of Greenwood Lake, NY came to tell about a bioremediation project on that lake. A number of members of the Lake St. Catherine Association were also in attendance.

President Bill Steinmetz began the event with a presentation of some of the data and findings of the LSCCF. He gave a brief summary of the history of the Little Lake and presented graphic illustrations to show how the lake is becoming shallower and narrower. He explained some of the points of the LSCCF's strategy for restoring the lake to accustomed uses, and also reviewed the benefits of the Vermont Land Trust project in which involvement of the town of Wells could result in development of a recreational area in the northwestern shore of the Little Lake. Such development would be of great benefit to the residents of Wells, and would help our cause as well. We urge our members to support this important project.

Next, Luke Wilson of Earth Specialty Products gave a brief slide presentation showing some hydraulic dredging projects he has done, and explained that process briefly. He showed that it is a cleaner process than other forms of dredging, and that the material removed can be de-watered in a type of bag that allows clean, clear water to return to the lake.

The next presenter was John Tucci of Lake-Savers, Inc. Mr. Tucci's company installs and manages systems of bioremediation using products from Clean-

Flo International. The president of Cleanflo, Brian Kling, accompanied Tucci and helped with the presentation. Bioremediation uses a combination of aeration and bacteria or enzyme treatments to encourage natural decomposition of the sediment, increase water depth, improve fish habitat, and bring about an abatement of nuisance aquatic plants. Employing essentially the same concept used in sewage treatment, the technique is used in almost every U.S. state and in many foreign countries to restore reservoirs, lakes, and rivers to a healthy environment for aquatic life, recreation, and even human consumption. Tucci's presentation was enhanced by two testimonials. One was from Mayor Barbara Moore of Greenwood Lake, NY, where the bioremediation process has been successful in only one season in effecting a significant improvement in water quality, fishing, and navigation. Mayor Kastberg of Scotia, NY, was interviewed by telephone, and he, too, spoke of a great improvement in Collins Lake in his town.

A Q & A period followed in which questions about costs, water quality, and logistical factors related to bioremediation were raised by residents and members of the ANR.

We hope that the Lake Summit will become an annual event and turn out to be an important step in sharing and cooperation as we continue our journey toward a balance, healthy, beautiful Little Lake, and provide a model for other lakes in the state of Vermont.

Attention all members! Annual Meeting Coming Up May 28

Our annual members' meeting will be held May 28, 10 AM at the Wells Village School. We hope you will make a special effort to be at this meeting. We may have a guest speaker, and will fill you in on all the activities of the past year. The election of Directors will take place at this meeting. The Nominating Committee has placed all the current directors' names on the slate for re-election:

Bill Steinmetz, Ron Dreher, David Emmons, Lee Evans, Bill Frye, Fran Gilman, Al Cote, Max Emmons, Bob Short, Tim Makepeace, and Rick Dupont. Proxy votes must be made in writing, signed by the voting member, and presented to the secretary at least five days before the voting for verification of legitimacy.

Letter from the president...

To our members and friends:

This has been an eventful first year for the Lake Saint Catherine Conservation Fund. Starting with little but aspirations, we have grown to be a 501 c 3 corporation with some funds in the bank, but more importantly the backing of 96 family members and a dedicated Board focused on restoring Lake Saint Catherine.

But the most important work lies ahead, and that work is implementation. We recently submitted two permit applications to the Water Quality Division of the Agency of Natural Resources (ANR), State of Vermont. Based upon statements from ANR staff, we are optimistic that we will receive implementation authority for an aeration project covering most of the eastern portion of Little Lake and a hydraulic dredging project for a portion of the much-degraded northwest corner of Little Lake. This approval should be received by mid-July. We hope to begin implementing much of that work immediately. To do so, we will need to do some serious fund-raising this summer. We need to raise approximately a total of \$60,000 to complete both projects. The generosity of some members has already begun to chip away at this target as will the Town of Wells contribution of \$12,000 voted in by the town in March. We hope we can count on you when we begin this fund-raising work in the late spring to meet our target.

We will also begin a serious monitoring program shortly. Using funds awarded by the Lake Champlain Basin Program, we will be monitoring dissolved oxygen, pH and temperature rigorously. We will be doing more extensive plant population surveys and clearing by hand certain congested areas. We need volunteers to help with all of this work.

Finally, we also need your input and advice. Our Board recently voted to express concern about any herbicide treatments this year. We are not convinced they are effective and their use may confuse the monitoring of the aeration project. We have passed this view on to ANR, but to this point have only received polite emails that this is an "internal" decision that we are not invited to participate in. This is disappointing and frankly ignores our superior knowledge of lake conditions. What are your views? We welcome your input by letter, email, phone, at our Facebook site.

As always, we seek to serve you as guardians and stewards of our precious lake. We look forward to seeing you at our annual meeting on May 28th, 10 AM until noon at the Wells Town School.

Blessings, Bill Steinmetz, President



Amendment Alert!

In keeping with our bylaws, we are informing our members of the following proposed amendments to the bylaws to be voted on at our meeting on May 28, 2011.

First amendment: *This change is proposed in order to address the provision that Directors' term of office is for one year. Since the current officers were elected on Memorial Day weekend in 2010, elections will have to be held again in 2011 on the same weekend in order to prevent Directors' terms from lapsing.*

Current article: 5.1 **Annual Meeting:** An annual meeting of the membership shall be held between July 1 and August 15 of each year.

Proposed change: 5.1 **Annual Meeting:** An annual meeting of the membership shall be held on Memorial Day weekend of each year.

Second amendment: *Your Directors have met monthly as required by the bylaws during the last year. However, for various reasons, hardships arose that made adherence to this rule very difficult at times. Thus, in order to provide more flexibility and accommodate busy schedules, inclement weather, and travel difficulties, it was deemed advisable to reduce the required meeting schedule to 10 meetings per year. Of course, special meetings will continue to be held whenever necessary.*

Current article: 6.8 **Board Meetings:** The Board of Directors shall meet at least monthly, but also whenever called by the President, or upon the call of any three (3) members of the Board.

Proposed change: 6.8 **Board Meetings:** The Board of Directors shall meet at least ten (10) times annually, but also whenever called by the President, or upon the call of any three (3) members of the Board.

Third Amendment: *It was agreed by the membership at our meeting of May 29, 2010, that an email message would suffice for a proxy vote if time did not permit postal mail.*

Current Article: 5.6 **Voting:** ...Proxy votes must be made in writing, signed by the voting member, and presented to the secretary at least five (5) days before the voting for verification of legitimacy.

Proposed change: 5.6 **Voting:** ...Proxy votes must be made in writing or by email, signed by the voting member, and presented to the secretary at least five (5) days before the voting for verification of legitimacy.

Time to Re-up

As noted above, a number of our members have already signed up for another year, and have generously accompanied their \$50 dues with tax-deductible contributions. Any amount in addition to the dues is now IRS tax-deductible. Regular membership dues are \$50 (Silver level). We designate participation levels above \$50 as Gold (\$100) and Platinum (\$150+). There is also a Commercial Level of \$300.



**Lake St. Catherine
Conservation Fund, Inc.**

Wells & Poulney, Vermont

Please make checks payable to:

Lake St. Catherine Conservation Fund, Inc.
PO Box 52, Wells, VT 05774

Participation Levels: Silver \$50, Gold \$100,
Platinum \$150+

All amounts above \$50 are tax deductible

Name _____

Address _____ Camp # _____

Email _____ Phone _____

Contribution Amount _____