

the Water Column



A Publication of the Maine Volunteer Lake Monitoring Program

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Provided free of charge to our monitors and affiliates

Winter 2012

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Welcome New Monitors
Thank You Donors!
Climate Change and Maine Lakes
Echo Lake Plant Patrollers
Cell Phones and Lake Monitoring
VLMP Goes International
Thoughts on Volunteerism

*Volunteer Lake Monitoring
Moves Into The
Future*

Photo of Moose Pond, courtesy of Carlene & Dennis Haggerty

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President's Message

Tamara Lee Pinard
President, VLMP Board of Directors

The recent VLMP Fall Appeal clearly demonstrated the strong level of support that exists for the work of Maine's volunteer lake monitors, and for the effectiveness of the VLMP as an organization. Thank you so very much to all who responded to the appeal. Your generous donations will allow the VLMP to continue to be able to support the work of nearly 1,000 certified volunteer lake monitors, and the lakes they monitor and help protect.

As I browsed through this newsletter, I was struck by just how broad-based

the VLMP's support truly is. Every photo and every name that appears in the articles and acknowledgements is about individuals who are, in some way, fostering the committed volunteer lake monitors throughout Maine who, year after year, monitor the health of Maine's exceptional lakes and ponds.

As the VLMP moves into the future, it is clear that there are many oars in the water, all pulling together to get us there!

BECOME A FRIEND OF THE VLMP!

The VLMP is a uniquely volunteer-powered organization. Most VLMP volunteers are committed to the critically important task of monitoring the health of Maine lakes. But there are many other off-the-water tasks that need to be done in order to keep the entire statewide lake monitoring enterprise moving forward smoothly. As the VLMP grows, these essential behind-the-scenes tasks are also increasingly being shared by our volunteers.

Friends of the VLMP are lending their time, talents and creativity to help us build and maintain one of the largest and most active citizen-based lake monitoring programs in the nation. With their much-needed and greatly valued help; the VLMP is better able to meet the demands of Maine's ever-growing statewide network of volunteer lake monitors.

Interested? We are eager to help YOU find and/or expand your special niche in the VLMP. We can use help with a wide range of seasonally variable tasks, from data entry and assembling bulk mailings, to helping with yard work and making repairs to the property. Please contact us today to learn more!



VLMP Lake Monitor, Data Coordinator, Board of Directors Treasurer, and 'Friend' Lew Wetzel is seen here entering lake data from the 2011 season.

Lakeside Notes

Perspective:

More than fifteen years have passed since the VLMP made the transition from state government to the nonprofit organization that it is today. The change occurred because state funding shortfalls forced the DEP (which had formed and successfully managed the program for more than two decades) to explore alternatives for sustaining the organization. A focus group consisting of volunteer lake monitors and lake organizations was formed to consider options for the future of the program. The decision to form a nonprofit organization that could operate independently, while continuing to work closely with the DEP was definitely an experiment – and I am happy to report that, a decade-and-a-half later, the experiment was a success!

When the VLMP was part of state government, 100% of the program budget was government funded. Today, even though a significant percentage of our money still comes from state and federal sources, we increasingly rely on foundation grants, support from collaborating organizations, businesses, and donations from individuals. According to conventional wisdom,

diversity in an organization's funding base is key to survival, especially during uncertain economic times. The composition of our annual funding has been slowly shifting from government-dominated to individual-supported. We are fortunate to receive funding from a wide range of charitable foundations through competitive grants, and business support is also growing. But the biggest change and growth has been in the area of donations from individuals, who consist of volunteer monitors, lake associations, and others who value Maine's clean, clear lakes, and who recognize the value that trained volunteer lake monitors provide to their health. The results of the 2011 Fall Appeal clearly demonstrated that VLMP supporters understand the importance of their role in this process. The event was the most successful fundraising event in the history of the program!

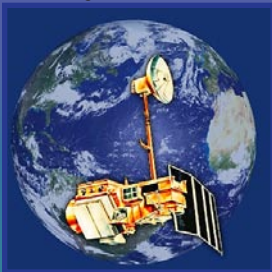
A great many positive changes have occurred in the program since the transition to the nonprofit sector took place. Improvements in volunteer training protocol and the certification process, the annual Maine Lakes Report, the newsletter, the annual conference, the expansion of the scope of volunteer monitoring to include invasive aquatics,



By Scott Williams
VLMP Executive Director

expanded outreach and technical support to our lake monitors and their watershed communities – all of this has happened in a relatively short period of time. We are often asked how the VLMP is able to accomplish what it does with such a lean budget. The simple answer is that it is possible because a great many people have embraced the idea that volunteer lake monitors are able to gather a substantial amount of credible and valuable information about their lakes, and that they can play important leadership roles in their communities, all of which inspires, energizes and enables all of us to sustain this great program. Thank you so very much for the good work that you all do. Because of your commitment and vision, volunteer lake monitoring in Maine is stronger and more robust than at any time in the past.

Image: satnews.com



LANDSAT 5

The efforts of volunteers to collect Secchi data matching flyover dates of the Landsat 5 satellite is paying off, according to DEP Biologist Linda Bacon. DEP is currently funding a graduate student position at the University of Maine to compare Secchi data to satellite images, and hopes to have a completed model in 2-3 years. This technology has the potential to be able to identify

algae blooms from space! Bacon says that, "Volunteer data will be more valuable than ever to help calibrate the satellite."

As the Landsat 5 satellite orbits the earth it takes photos of Maine lakes and ponds (as well as other features of the earth's surface). The satellite images could be used to help characterize the transparency for many Maine lakes (thousands!) for which we do not have current water quality data. Volunteer lake monitors can play an important role in helping to "ground truth", or calibrate the satellite images by taking Secchi disk transparency readings on the days when the satellite passes over Maine.

2012 Landsat 5 Overpass Dates

April 4, 20
May 6, 22
June 7, 23
July 9, 25
Aug 10, 26
Sept 11, 27
Oct 13, 29

Littorally Speaking



by Roberta Hill
VLMP Invasive Species Coordinator

Thanks to all of you, it's been another record-breaking year for Maine's early detection effort! We are thrilled with the continued--and ever growing--interest in the VLMP Invasive Plant Patrol training and Invasive Aquatic Plant Screening Surveys. Nineteen IPP workshops were conducted across the state last year; several with record attendance. Approximately 330 individuals attended one or more workshops in 2011! The VLMP has now trained over 2800 Invasive Plant Patrollers statewide.

We are hard at work entering the massive quantity of 2011 IAP screening survey data that has come in so far

(some is still trickling in over the deadline). But it is already quite clear that records will be broken on this front as well . . . more surveys being reported this year than previous years, and more new Maine waterbodies to be added to the "surveyed" list.

One of the most exciting developments with regard to the survey data is the fact that many volunteer Invasive Plant Patrollers are now working and reporting as part of an organized IPP Team effort. Maine now has at least 70 active or actively forming IPP teams, up from a small handful only two years ago. (An IPP Team is defined



as "four or more trained Invasive Plant Patrollers working in concert to conduct one or more invasive aquatic plant screening surveys.")

Equally encouraging, Regional IPP Leaders are increasingly providing the essential role of supporting the development and growth of IPP Teams at the local level.

The VLMP's IPP Sustainability Initiative--launched just two years ago--has taken off like a shot. Your collective energy, enthusiasm, creative ideas, hard work, and *leadership* have created a momentum that far exceeds our (actually quite ambitious) expectations. Lea Stabinski's article on page 12 provides an excellent example of this. Please read it!

Now the biggest challenge is simply keeping up with all of you! But, fear not, your success provides all of us here at the VLMP with powerful motivation. With that in mind we invite you all to take part in two exciting new leadership opportunities advancing this critically important collaborative endeavor. Please see below.

In closing, I just want to say how much I enjoy working with all of you. I wish you all a healthy, prosperous, and invader-free new year!

TWO NEW RESOURCES FOR IPP LEADERS:

Invasive Plant Patrol Leaders Page

http://www.mainevlmp.org/wp/?page_id=805

This page is packed full of resources, specifically designed to help you find--and excel in--your leadership niche within Maine's growing Invasive Plant Patrol effort.

Topics include:

- Getting Started
- IPP Leadership
- Hosting an Invasive Plant Patrol Workshop
- IPP Lake Teams
- IPP Leadership Training
- Other Leadership Opportunities
- Success Stories
- Lake Leaders Directory

2012 Invasive Plant Patrol Leaders Roundtable

Friday, March 23 10:00 AM to 3:00 PM

Auburn Public Library

The purpose of this meeting is to bring together the knowledge, experience, and ideas of Invasive Plant Patrollers who are playing critical leadership roles in their communities, and helping to build one of the nation's most formidable volunteer early detection programs for aquatic invaders. Individuals who would like to learn more about how they can launch an early detection effort in their community are also welcome to attend, and will benefit from interaction with seasoned Invasive Plant Patrol Leaders.

Pre-registration is required. Please contact Roberta Hill for more details. 207-783-7733, roberta@mainevlmp.org

QUALITY COUNTS!

Have you ever compared your work as a volunteer lake monitor to that of a health care professional? Fortunately the fluid you come in contact with on the lake is far less contaminated with contagions that can ruin your day, as compared to body fluids that health care professionals deal with. And the ambiance of being in a boat on a lake is not only preferable, but downright enjoyable!

One aspect that is comparable and critical is record keeping. Imagine that you are being treated for an illness in a hospital. Various individuals have the task of gathering your vital signs, day in and day out. Hopefully these results are recorded appropriately – along with your name, the date and time – and shared with your doctor. What would happen if your temperature was linked to someone else? Or if Joe Patient's blood pressure ended up on *your* chart? Worse still, what if someone else's medical test results were thought to be yours?! Everyone



http://www.freeditalphotos.net/images/view_photog.php?photogid=2664

has heard horror stories about procedures being performed on the wrong patient.

Well fortunately, mistakes with life and death consequences do not creep into the lake monitoring realm. **Nevertheless, accurate recording of data is absolutely critical to successful lake monitoring.** Field sheets are an important tool that we use to assure the quality of the lake records. Properly filling out field sheets is an essential step. All of the lines and boxes on a field sheet pertain to critical pieces of information needed to interpret readings. For example, your QA Certification number is an essential and vital bit of information. Equally important is entering “N” if your Secchi disk does not hit the bottom of the lake. The lake identification number or MIDAS number identifies the specific lake and the station number identifies the spot you monitor on your lake.

Every year approximately 3,000 field sheets are submitted to the Volunteer Lake Monitoring Program (VLMP). Imagine that some are missing their QA Certification number. Before those data can be entered into the system, the missing data needs to be added - which could take five minutes. This doesn't sound like much time, but what if one-tenth, or 300 of the sheets were missing this item? Three hundred sheets multiplied by five minutes makes 25 hours! And



by Linda Bacon
VLMP Quality Assurance Officer;
Maine Department of
Environmental Protection,
Aquatic Biologist

sometimes it takes more than five minutes to reconcile a data issue... We all know the saying that *time is money*, and every dollar that isn't spent correcting field sheets could be used to train a volunteer on a lake that isn't being monitored.

What can you do help? Simply take a few minutes right after monitoring your lake to make sure the field sheet is complete. The people who check your field sheet cannot make assumptions about missing information, and tracking you down can be a slow process. The time that you take to check your data will save staff time, and will ultimately save the VLMP and Department of Environmental Protection money. As a lake health professional, your work is incredibly important – even down to the very last detail!

DON'T FORGET TO REPORT YOUR ICE-OUT DATE

Spring is fast approaching, and for lake-conscious folks that means one thing: ice-out is coming! Ice-out records have been kept by generations of Mainers, and for many lakes there is a long history, in some cases stretching back to the mid-1800's. Here at the VLMP we are keeping the tradition of documenting ice-out alive, and acting as a state repository for ice-out records. Your ice-out data,

when paired with water quality readings, may help us understand the relationship between ice cover, water quality, and global climate change.

So remember, send us your ice-out dates! E-mails can be sent to christine@mainevlmp.org, or you can call us at 207-783-7733.

Welcome New Lake Monitors!

NEW WATER QUALITY MONITORS CERTIFIED IN 2011



Sara Adams; multiple water bodies
 Bill Allanach; Thompson Pond
 David Allen; Crystal Pond
 Caroline Beard; Seven Tree Pond
 James Bisesti; Allen Pond
 Paul Boucher; Varnum Pond
 Roger Cady; Washington Pond
 Kathleen Cotter; Abrams Pond
 William Cotter; Abrams Pond
 Julia Daly; multiple water bodies
 Julia Desrosiers; Pleasant Lake
 Emily DiFranco; Bauneag Beg Lake
 Peter Duffey; Seven Tree Pond
 Jared Dunn; Little Big Wood Pond
 Paul Farren; Southeast Pond
 George Feus; Duckpuddle Pond
 Brian Friedmann; Georges Pond
 John Goldfrank; Hancock Pond
 Brescian Lander; Long Pond
 Sarah Lavorgna; multiple water bodies



Patrick Marass; Bauneag Beg Lake
 John Merrifield; Cargill Pond
 Carole Merrifield; Cargill Pond
 Janet Murphy; West Lake
 Paul Murphy; West Lake
 Larry O'Rourke; Labrador Pond
 Denny Phillips; Watson Pond
 Judy Purdy; Webb Lake
 Bruce Purdy; Webb Lake
 Ann Rossignol; Bauneag Beg Lake

Peter Smith; Hancock Pond
 Jon Stimmell; Bauneag Beg Lake
 Jessica Terrien Dunn; Little Big Wood Pond
 Stephen Underwood; multiple water bodies
 Dan Vallee; Sebago Lake



David Alling; Quantabacook Lake
 Dorothy Alling; Quantabacook Lake
 Meryl Araps; Flying Pond
 Rick Baker; Quimby Pond
 Skip Bartosch; Mousam Lake
 Caroline Beard; Seven Tree Pond
 Cathy Blair; Branch Lake
 Joe Bodnar; Damariscotta Lake
 Linda Bohm; Lower Patten Pond
 Roger Cady; Washington Pond
 Amy Campbell; Megunticook Lake
 Kim Caron; Square Pond
 Rob Caron; Square Pond
 Katharine Chaiklin; Bickford Pond
 Patricia Clifford; Big Clemons Pond
 Mike Cloutier; Sabbathday Lake
 Christine Clyne; Barker Pond
 Mel Croft; East Pond
 Claire Cullinane; Great East Lake
 Chris Dadian; Toddy Pond
 Carlyn Daigle; Square Pond
 Diane Day; Buker Pond
 John Dickson; Worthley Pond
 Millie Donahue; Buker Pond



Bruce Doyle; Buker Pond
 Ginger Doyle; Toddy Pond
 Lorraine Doyle; Buker Pond
 Paul Doyle; Toddy Pond
 Peter Duffey; Seven Tree Pond
 John Erdman; Varnum Pond
 Cheryl Fortier; Sabbathday Lake
 Larry Fox; Green Lake
 Brian Friedmann; Georges Pond
 Carol Fuller; Echo Lake
 David Fuller; Echo Lake
 Robert Giffin; Toddy Pond
 Harold Gillman; Big Clemons Pond
 Maryagnes Gillman; Big Clemons Pond
 Heidi Gosselin; Dodge Pond

NEW INVASIVE PLANT PATROL MONITORS CERTIFIED IN 2011



Elizabeth Hamilton; Forest Lake
 Janice Holden; Beaver Mtn Lake
 Susan Jasper; Buker Pond
 Jennifer Jespersen; Minnehonk Lake
 & Hopkins Pond
 Joanne Kimball; Walker Pond
 John Kimball; Walker Pond
 Carol Knapp; McCurdy Pond
 Ed Knapp; McCurdy Pond
 Ted Lane; Biscay Pond



Joanna Lerish; Big Clemons Pond
 Victor Lerish; Big Clemons Pond
 Robert LeVine; Toddy Pond
 Sarah LeVine; Toddy Pond
 David Limbert; Big Clemons Pond
 Michael Long; Great East Lake
 Donald Mantovani; Mooselook Lake
 Pam Mantovani; Mooselook Lake
 Tom Marshall; Echo Lake
 Judy McGeorge; Branch Lake
 Janet Murphy; West Lake
 Ellen Paige; Toddy Pond
 Mike Paige; Toddy Pond



Peter Patenaude
 Michele Petryk; Great Pond
 Katie Poole
 Bruce Purdy; Webb Lake
 Judy Purdy; Webb Lake
 David Raye; Little Ossipee Lake
 Linda Rice; North & Little Ponds
 Aaron Rinehart; Acadia National Park
 Debra Roe; Flying Pond
 Karen Rogers; Parker Pond
 Robert Sherman Haley Pond
 Tim Sholtis; Damariscotta Lake
 Louise Shorette
 Donald Simoneau; Androscoggin Lake
 Dorothy Smith; Great East Lake



Jeanne Smith; Big Clemons Pond
 Mike Smith; Big Clemons Pond
 William Spitzinger; Forest Lake
 Michele Stowe; Woodbury Pond
 Haas Tobey
 Roberta Weymouth; Lovejoy Pond
 Tamara Whitmore; Cobbossee Area
 Lakes

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Bear Pond Improvement Association
Belgrade Regional Conservation Alliance
Branch Pond Association
Brettons Pond Association
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Cold Stream Campowners Assoc., Inc.
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Lovejoy Pond Improvement Association
Meddybemps Lake Association
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Mousam Lake Region Association
Muscongus Pond Association
Nickerson Lake Wilderness Preservation, Inc.
No Name Pond Watershed Mgmt Assoc.
Parker Pond Association, Inc.
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Pickert Pond Association
Piper Pond Association
Pleasant Pond Protective Association
Pleasant River Lake Association
Portage Lake Association
Rattlesnake Association of Brownfield
Sabbathday Lake Association
Saturday Pond Watershed Association
Sebasticook Lake Association
Sebec Lake Association
Silver Lake Campowners Association
Summer Haven Lakes Association
Swan Lake Association
Taylor Pond Association
Washington Lakes Association
West Harbor Pond Watershed Assoc.

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Belgrade Regional Conservation Alliance
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Damariscotta Lake Watershed Association
Friends of the Cobscookse Watershed

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Quimby Family Foundation

In Kind

And for those of you who have donated your time, expertise, and dedication to the work of the VLMP in the past year - many thanks!

* Donations to the 2011 Fall Appeal are still coming in to the VLMP. This list of donors is current as of February 27, 2012.



Monitoring the Effects of Climate Change on Your Lake

By Scott Williams
VLMP Executive Director

Weather has a powerful influence on lake ecosystems. In recent years, we have observed the effect that precipitation alone appears to have on the annual variability of Maine lake clarity. This has only been possible thanks to thousands of reliable Secchi disk readings taken by VLMP lake monitors. The dramatic variation that we are seeing from year to year may be due, in part, to the influence of climate change on our lakes. Thus, the Secchi readings that you take during the summer may provide insight into how climate change affects the lake that you monitor.

Climate change is very likely already influencing Maine lakes. While some of the outcomes of a warming climate on lakes and their watersheds are intuitive, there is a great deal of uncertainty about how individual lakes will respond to the dramatic stresses of this phenomenon. Some of the possible effects of climate change on lakes include, but are certainly not limited to:



In recent years ice cover has formed later in the fall/winter and has melted earlier in the spring than it has historically for lakes throughout Maine and New England.

- Shorter periods of winter ice cover, resulting in potentially profound changes to lake ecosystems that include degraded water quality, the loss of habitat for some species of fish

and other lake residents, and fewer opportunities for winter recreation on the ice

- Extreme weather events associated with climate change may cause an increase in soil erosion from lake watersheds, resulting in higher concentrations of phosphorus and sediment particles in stormwater runoff to lakes – which in turn could cause greater algae growth, less clear water, degraded habitat, and other negative changes



As lake water becomes warmer and the duration of ice cover becomes shorter, the growing season for algae becomes longer. Such conditions may favor the growth of bluegreen algae (cyanobacteria), resulting in considerably less clear water, and the possibility of an increase in algal toxin levels in our lakes.

- As lake water warms, and nutrient levels rise, higher concentrations of blue-green algae (aka: cyanobacteria) will probably occur, causing more frequent and intense algal blooms. This could result in higher levels of algal toxins in lake water – a phenomenon that is relatively rare in Maine lakes at this time

- More suitable habitat for aquatic invaders (both plants and animals): Invasive species that are currently unable to survive in the relatively cool temperatures in Maine lakes may



wasserpest.net

Egeria najas (another *Egeria* species!) is an example of one invasive aquatic plant that is not currently a threat to New England (due to intolerance to our northerly climate) but may very well be a threat in the near future as a result of global climate change.

move increasingly northward as the water warms

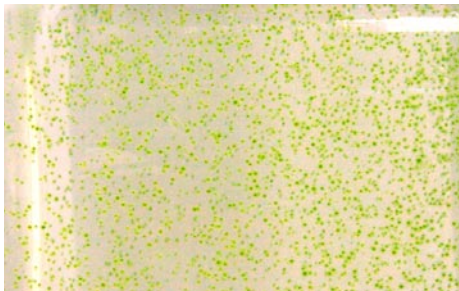
- A change in the “sense of place” that we associate with our lakes in winter, and quite possibly a loss in some of the economic benefits associated with Maine’s clear, clean lakes

All of these changes are likely to happen as the atmosphere warms. Each will have a pronounced negative effect on our lakes. Additional subtle changes that may also occur could result in lakes in the not-so-distant future that are virtually unrecognizable as we know them today.

The mission of the VLMP is to train volunteers – aka: “citizen scientists” to gather data for key indicators of lake health. Historically, the two primary areas of focus have been on lake water quality and aquatic invaders. Much of what is known about the water quality of Maine lakes, and of the presence or absence of aquatic invaders is through the efforts of thousands of VLMP trained volunteers, many of whom have

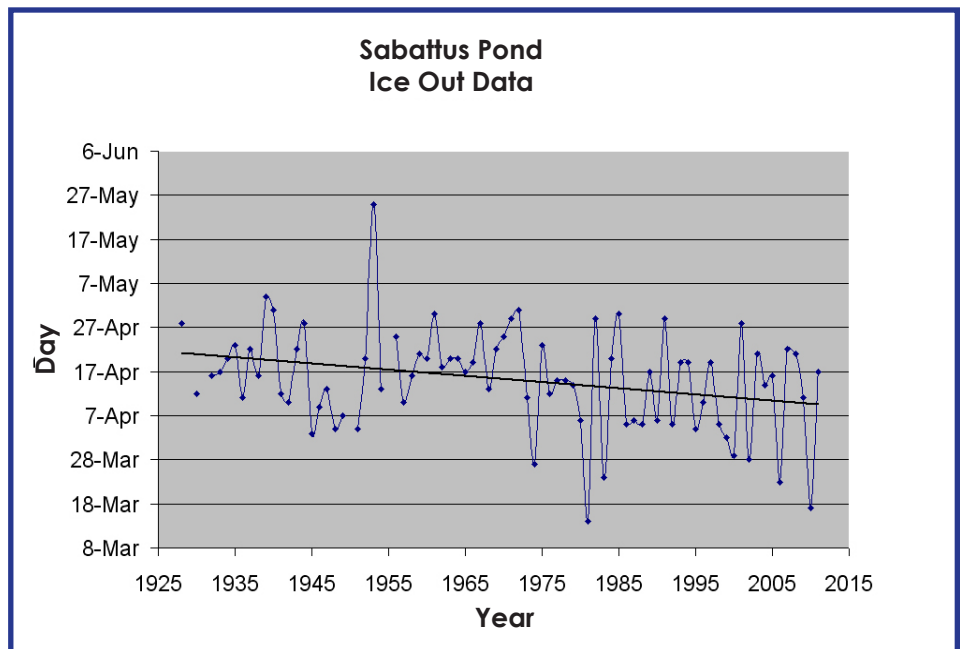
been continuously gathering information about their lakes for decades.

If you are a certified volunteer lake monitor, you are already gathering data relevant to the study of the effects of climate change on Maine Lakes. Secchi disk readings, temperature and dissolved oxygen profiles, phosphorus sampling, and screening for aquatic invaders--all of these indicators of lake health are probably being influenced by climate change.



Gloeotrichia echinulata is a blue green alga that has been observed in Maine lakes in low concentrations for many years. However, during the past decade, levels of "Gloeo" have increased dramatically in a number of lakes in the southern part of the state. Most of the lakes affected have been considered to have good water quality. Among the possible factors that may be driving this phenomenon is climate change.

For the past few years, the VLMP has been adding information about monitoring the effects of climate on Maine lakes to training workshops and to outreach information for Maine lake communities. Beginning this year (2012), we will integrate additional information on climate change monitoring into all VLMP training workshops, with the intent of achieving the following: 1) engaging new volunteers in the statewide monitoring effort; 2) broadening the scope of the data collected by volunteer lake monitors; 3) facilitating the use of this



Records for many lakes throughout New England clearly show earlier ice-out dates in spring, as this graphic shows for Sabattus Pond.

data by a broad spectrum of users; and 4) enhancing public understanding of the existing and potential impacts of climate change on Maine lakes.

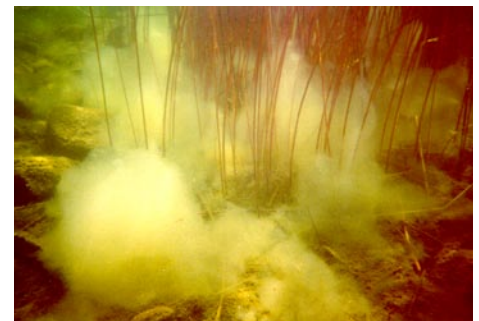
The VLMP recently received a grant from the Quimby Family Foundation that provides a significant portion of the funding needed to develop this new initiative, e.g., the creation of monitoring protocols, training materials, and on-line resources for volunteers who wish to help monitor the effect of climate change on Maine lakes.

On a more global level, NASA recently conducted a climate change study, in which large lakes throughout the country were used as indicators. An overview of the study can be seen at:

<http://www.nasa.gov/topics/earth/features/earthb20101123.html>

More information about the effects of climate change on lakes, and ways in which you can help monitor these changes will be presented at workshops

throughout the 2012 field season. All workshop dates, times and locations will be posted on the VLMP website in the spring: www.mainevlmp.org



"Metaphyton" are filamentous algae that grow in shallow areas of lakes, often having the appearance of "greenish/yellow cotton candy". For the past decade, reports of increasing metaphyton growth in Maine lakes have increased sharply. Some lake scientists speculate that this increase could be the result of a reduced period of ice cover on lakes, and warmer lake water temperatures in the spring.

SAVE THE DATE!

VLMP ANNUAL CONFERENCE TO BE HELD SATURDAY, JULY 21, 2012

Be sure to save the date for this year's Annual Lake Monitoring Conference. It will once again be held at the popular venue *The Great Outdoors*, located in Turner, Maine.

As we get closer to the conference, details will be posted on our website, and we'll send out an email reminder to everyone on our mailing list. We hope to see you there!

Echo Lake

Invasive Plant Patrol Team

by Lea Stabinski
Echo Lake IPP Team Leader



Here on Echo Lake, we are fortunate to have a flexible and deeply committed crew of Invasive Plant Patrollers. We are doubly fortunate in that, to date, *our team has found NO invasive plant species in Echo Lake or upstream Taylor Pond.*

The Echo Lake Team

Several people from Echo Lake took the Introductory Invasive Plant Patrol workshop and/or the IPP Survey Methods field course offered by the Maine Volunteer Lake Monitoring Program (VLMP) in July. All together we had twenty-two trained Invasive Plant Patrollers participating in the 2011 Echo Lake invasive plant survey. By mid-September the team had collectively logged in 230 hours of work, slightly more than five-and-a-half weeks of labor! That is up from 140 hours of volunteer work reported in 2010.



Carol and David Fuller getting their fingers wet during the plant ID exercise at the 2011 IPP workshop in Mt. Vernon. Carol and David became Certified at the workshop, and continued on to become what Lea admiringly calls, "serious Echo Lake Patrollers."

This may sound like quite a force of volunteers, and it is! However, the reality is that we still need to at least double the number of volunteers participating in the effort in order to have reasonable survey assignments (not more than 2-3 hours work each). We are grateful that several volunteers have been willing and able to survey larger

areas and fill in the gaps, but we should not expect these same few individuals to do more than their fair share indefinitely. If we want this effort to be sustainable in the long run, we need to get more trained eyes out there on the water. Many eyes make light work!

Native Plant Inventories

In going over and summarizing the data from the surveys, I found that more team members are using the inventory sheets on the back of the survey field forms to identify the native plants found during the course of their surveys, and the number of plants being listed is also growing. This represents an increased interest and knowledge of our lake's native plants, a pleasing trend for me! Both Echo Lake and upstream Taylor Pond contain populations of native non-invasive milfoils. Farwell's milfoil, low water milfoil and alternate-flowered milfoil can all be found in our local waters. Knowing this really keeps us Plant Patrollers on our toes!

Expanding the Scope of our Surveys

The Echo Lake boat launch area is a prime spot for invasive plants to be introduced and to take hold. In 2011 we increased the number of surveys covering this vulnerable area; completing monthly Level 1 surveys in June, July, August, and September. (A Level 1 survey targets high risk areas such as boat landings and marinas.)

We are also pleased to report that we have a new IPP Team Leader on Taylor Pond. Hannah Faulkner attended both of the VLMP training courses this summer, and has generously agreed to help coordinate the IPP team effort on Taylor Pond. We are very grateful to Hannah for stepping up to this responsibility.

One goal for the coming season is to conduct a plant surveys on Hopkin's Stream (which flows from Lake Minnehonk to the north end of Taylor

Pond), and Fayette Mill Pond on Route 17. Neither Hopkins Stream nor the Fayette Mill Pond has ever been surveyed for the presence of invasive aquatic plants.



Hannah Faulkner at the IPP Field Methods workshop on Taylor Pond. Hannah stepped out of her kayak and "up to the plate;" she is now the Taylor Pond IPP team leader.

Education and Outreach

We branched out a bit this year and offered to work with the public camps on Echo Lake to provide training to campers, counselors and small groups of adults. Alecia Tenney, an experienced Plant Patroller and local resident, was instrumental in helping to set up, design and execute the program that was based on the VLMP IPP Plant Paddle model. Five 12-year-old boys from Camp Winnebago and two camp counselors participated in the event, with five Echo



Lea Stabinski teaching Camp Winnebago campers how to tell "friend" from "foe" as part of the Echo Lake Plant Paddle on Echo Lake.

Lake Plant Patrollers and Tom Marshall from 30-Mile River Watershed serving as guides and paddlers.

After an hour-long session on the shore we struck off for two plant-rich coves across the lake. Plant samples were carefully collected, brought to shore, sorted into bins by plant type, and then identified. Both coves presented us with native milfoils so we had excellent material for discussion.

Subsequently two of the participating campers conducted a plant survey of the Winnebago waterfront with the camp's nature counselor. We are pleased that the camp is now conducting its own surveys. Plans are underway to bring the IPP Plant Paddle to the other camps on the lake in coming years.

IPP Leadership Meeting

VLMP Invasive Species Coordinator, Roberta Hill, came to Echo Lake in

June to discuss the IPP Sustainability Initiative and ways in which trained invasive plant patrollers can play important leadership roles in their communities. After ferrying participants out to our camp on Echo Island, the meeting convened around our large



After ferrying out to Lea's camp on Echo Island, Invasive Plant Patrol Leaders from seven of the lakes in the 30-Mile River Watershed convened around the kitchen table with VLMP's Roberta Hill, for an IPP leadership seminar. IPP Regional Leaders from 30-MRWA organized and participated in the meeting.

kitchen table, with a sheet on the wall for a projector screen. Present were our IPP Regional Leaders, Lidie Robbins and Tom Marshall from 30-Mile River Watershed, who organized the meeting, and eight IPP Lake Team Leaders from the following lakes: Androscoggin Lake, Lovejoy Pond, Echo Lake, Lake Minnehonk, Parker Pond, David Pond, and Flying Pond.

In closing, I would simply like to say that I am very proud of what we all accomplished on Echo lake in 2011. I look forward to continuing to train and expand our educated and able-bodied invasive aquatic plant surveyors in order to protect not only Echo Lake, but neighboring water bodies as well. I am truly grateful to all our local IPP volunteers; their passion is inspirational!

Monitoring Your Lake Using Cell Phone Technology: A High-Tech Lake Monitoring Tool That You May Already Have!

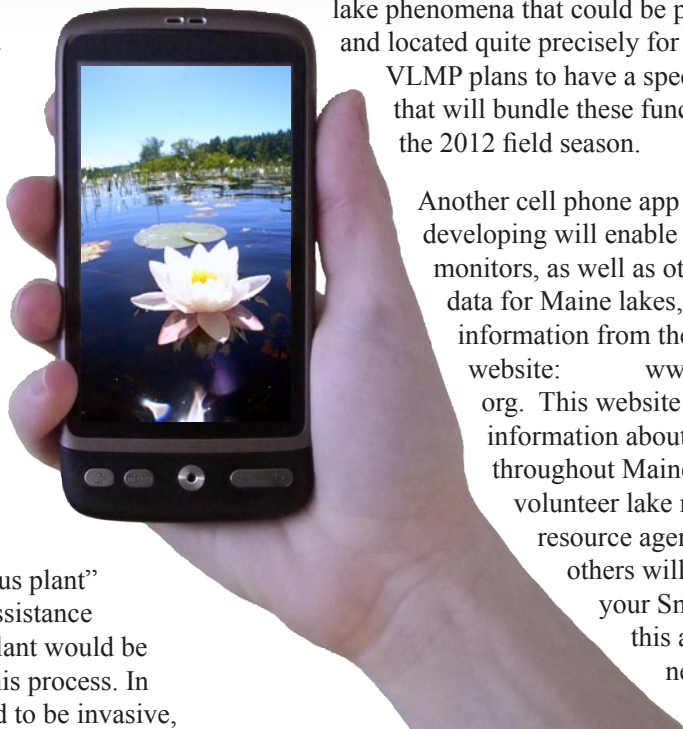
Cell phones are evolving at lightning speed, and it seems like there is a cell phone "app" for just about any activity or interest imaginable. The Smartphone is a remarkable tool with increasingly diverse capabilities. The VLMP is working on the development of Smartphone apps for accessing data for Maine lakes, and for facilitating the gathering of lake data by volunteer monitors.

Most cell phones have a camera function, as well as the capability for "geo-referencing" the location of information obtained by the device. Many Smartphone users also have the ability to send email messages from their phones. The combination of these three features creates a powerful tool for the identification and documentation of a wide range of lake phenomena and conditions. For example, lake monitors could easily take a picture of a "suspicious plant" and email the photo to VLMP staff for assistance with identification. The location of the plant would be automatically recorded and mapped in this process. In the event that the specimen is determined to be invasive,

the information provided through this relatively simple process could be invaluable!

Potential invasive species are just one of many types of lake phenomena that could be photographed, emailed and located quite precisely for future reference. The VLMP plans to have a specific "app" available that will bundle these functions by the onset of the 2012 field season.

Another cell phone app that we are developing will enable volunteer lake monitors, as well as other users of data for Maine lakes, to download information from the LakesofMaine website: www.lakesofmaine.org. This website contains extensive information about individual lakes throughout Maine. Lake data from volunteer lake monitors, state natural resource agencies, researchers and others will soon be available on your Smartphone. We expect this app to be available by next summer.



VLMP Goes International

Aquatic invaders do not respect national borders! And here in Maine, as you all know, we have more *international* borders than we have *national* borders. Indeed, our borders with Quebec to our northwest, and New Brunswick to our northeast, are *both* longer than our only border with a US state, New Hampshire.



Nathalie LaViolette (L) and Isabelle Simard (R), of the Quebec Ministry of the Environment, take notes and photograph live plant specimens at an Invasive Plant Patrol workshop.

This is one good reason why, over the past several years, the VLMP been actively strengthening collaborative ties with our neighbors in both Quebec and New Brunswick. Starting in 2010, the VLMP has worked closely with the Quebec Ministry of the Environment to help develop a citizen-based invasive plant monitoring program in Quebec. Lake professionals from the ministry have traveled to Maine twice over the past two years to attend VLMP Invasive Plant Patrol (IPP) workshops, visit active

invasive aquatic plant (IAP) control projects, participate in an IAP mapping survey, and meet with DEP and VLMP staff.

This promising collaboration has already proven fruitful. Invasive Plant Patrol protocols, data forms and other materials developed by the Maine Volunteer Lake Monitoring Program, have now been adapted and translated into French for use by several hundred volunteers affiliated with Quebec's lake monitoring program. In return, our new friends in Quebec have provided the VLMP with extremely insightful and useful feedback on this material (much of which has now been integrated



into the program), and in the process have also contributed a number of innovative technological advancements to the art of IAP early detection. Wait until you see our new super bucket scope (labeled "Made With Care In Quebec") that we received from our Canadian colleagues as a thank you gift!



This past summer, VLMP was invited to speak at, and participate as a special guest in the New Brunswick Lakes Conference. The conference drew approximately sixty lake scientists and professionals, lake-group leaders, students and others from across the province. Agata Pawlowski, of Eastern Charlotte Waterways (the conference organizer), wrote to express her appreciation for VLMP's participation:

"Our conference was a great success thanks to the contribution from VLMP. Your presentation was very well received; feedback from conference surveys indicate that your presentation was a highlight of the day for many. We are confident your presence at our event helped to generate the motivation that we had hoped for, and inspired our participants to continue to be proactive and move forward with regards to lake management in our province."



Roberta Hill shares the VLMP success story with attendees at the 2011 New Brunswick Lakes Conference organized by Eastern Charlotte Waterways.

The VLMP has long been seen as a national model for attracting, training and supporting the work of volunteer citizen scientists. We can now proudly say that we have become an international model as well!

2012 VLMP WORKSHOP CALENDAR

Here at the VLMP we are busy planning and making preparations for the coming training season. Interest in VLMP workshops has never been higher, and it looks like we're in for another banner year. In addition to a wide array of workshops providing training for new and existing water quality and invasive aquatic plant

monitors, the 2012 schedule will include a view scope clinic, how to conduct a plant paddle, invasive aquatic plant manual control training, and a course on climate change monitoring.

So please stay tuned . . . we will be posting 2012 workshop information on the VLMP website soon!

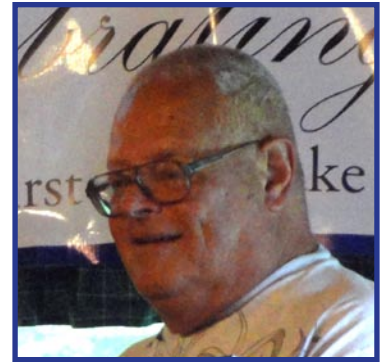
A Few Thoughts on Volunteerism

As I sit here reminiscing on my 35+ years with the VLMP, my thoughts are inevitably drawn to the wonderful volunteers I have known and worked with during that time. Such great people! We owe them so much. And so the question is, what is it that makes those fine folks so endearing and valuable to us all? Is it a spark inside that ignites them to do the things that they do, without any thought of personal gain, wealth or notoriety? What prompts them to go out in an anchored boat in the middle of a lake on a steaming hot day in the summer, peer in a tube at a disappearing disc with sweat streaming down their brow, while those around them are boating, swimming, fishing, or simply enjoying being on the water during their leisure time? Surely, these dedicated

volunteers have something special within them, a gift, if you will. Something that inspires them to make the world a better place to live for us all. At least part of it must be a love of nature, a realization that man can do great good as well as great harm to our planet, and that as our environment goes, so do we.

So that, apparently, is it. All volunteers, I am sure, have within them a special gift of giving, and the motivation to do something about it, and it is this gift which gives us the greatest promise for the future. God bless you all.

With my thanks,
Charlie Turner



Charlie Turner is a long-time VLMP volunteer; he's been monitoring Panther Pond since 1976! Charlie has also been serving as Regional Coordinator for Cumberland County during his time as monitor.



Eberhard Hans Thiele, Ph.D. Memorium

Maine Volunteer Lake Monitoring Program lost one of its longtime supporters, Dr. Eberhard Thiele, who passed away at age 74 on December 26, 2009, in Bradenton, Florida. Dr. Thiele had been an avid participant of the Maine Volunteer Lake Monitoring Program since 1998, carefully monitoring Little Black Lake in Fort Kent, Maine, where he lived in the summer. An avid nature lover, Dr. Thiele enjoyed wildlife tracking, hiking around the lake, camping, canoeing and sharing his love of nature with others through photography and articles he wrote for Maine Nature News journal. In effort to chase the sunshine, Dr. Thiele had begun spending winters in Bradenton, FL, but always looked forward to his return to Little Black Lake each summer.

Dr. Thiele retired from the University of Maine at Fort Kent in 2001, where for 25 years he had served as a professor and first director of UMFK's Bachelor of Science in Environmental Studies (BSES) program, started in 1976. His dedication to education and advancing an environmental ethic in Maine schools was tireless. In 1981, Dr. Thiele founded and served as first President of the Maine Environmental Education Association (MEEA), a statewide network which promotes environmental education in Maine and which continues to thrive today (<http://www.meeassociation.org/>). MEEA recently celebrated its 30th Anniversary with a tribute to Dr. Thiele, the inaugural "Eberhard Thiele Environmental Educator Award". He also served on the boards of various environmental councils and associations, including the Natural Resources Council of Maine and Fish River Lakes Association.

Previous to moving to Maine, Dr. Thiele and his family lived in California where he received his BS in Forestry from the University of CA at Berkeley, a Masters in Natural Science from San Jose State University and a Ph.D. in Environmental Science Education from the University of CA at Berkeley. It was in California that he founded and lead an environmental organization called the United New Conservationists, an umbrella group instrumental in bringing other environmental groups together to help establish the first Earth Day in 1970. Dr. Thiele's dedication to the environment was a lifelong one. He will be forever missed, but also remembered by the legacy he left behind.

Dr. Thiele was born in Holzminden, Germany and moved to the U.S. in 1956. Dr. Thiele is survived by his loving daughters Erika (41) and Monika (35), sister Karin Bellafiore, brother Volkhard Thiele, and his former wife and friend, Edeltraut Thiele.

Contributed by his daughter, Monika Thiele, who can be reached at monikathiele2@gmail.com.



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