MAINE VOLUNTEER LAKE MONITORING PROGRAM • PO BOX 445, TURNER ME 04282-0445; (207) 225-2070 •

the Water Column

Vol. 6, No. 1 Provided free of charge to our monitors and affiliates Spring/Summer 2001

VLMP Celebrates 30 years of Successful Volunteer Monitoring

Congratulations to all of the volunteer monitors who have participated in the Maine Volunteer Lake Monitoring Program. Thanks to you, the VLMP is one of the oldest and largest citizen-based environmental monitoring organizations in the United States. At this year's Annual Meeting we would like to honor all volunteers for their distinguished commitment to the Program and, most importantly, to Maine Lakes.

Two volunteers will be recognized at the Annual Meeting for 25 years of service as VLMP Volunteer Monitors, and five volunteer monitors will receive the VLMP Lifetime Achievement Award for more than 25 years of volunteer service. We will honor two 20-year veterans, as well as five 15-year and 22 ten-year volunteers. Be sure to be on hand when we announce the 2001 Volunteer of the Year, chosen for exceptional service to Maine's lakes.

The Annual Meeting is our one opportunity during the year to honor the extraordinary efforts of all the VLMP volunteers. Their dedication to the health of Maine's lakes has made a difference in all our lives, and we owe them an enormous debt of gratitude.

Thoughts from Your President

Joe Flanagan

Dear Volunteer Monitors, Staff, Board Members and Friends of Maine Lakes,

Spring finally arrived! The ice is gone, and the 2001 monitoring season has begun. We will reach an important milestone this season, with more than 400 trained and certified volunteer monitors, and the staff is busy conducting training workshops for new monitors every weekend. Welcome to all new monitors!

Many of you will also take the time this season to attend a QA/QC workshop. We appreciate your time and dedication to make sure that the data collected by the VLMP is as accurate as possible. This keeps our data at high quality, and assures its credibility for use by agencies and groups involved in a variety of lake and watershed planning and protection activities.

Our new Invasive Plant Patrol program gets underway next month with a series of training workshops. Again, VLMP volunteers are leading the effort to protect Maine's lakes from the threat of Invasive Aquatic Plants.

I would like to extend my sincere personal thanks to all VLMP volunteer monitors who care so much about Maine's lakes and ponds. Thanks to all of you, our inland waters will be enjoyed by the next generation and beyond.

Don't miss our Annual Meeting on June 23 at the Maine Conservation School in Bryant Pond. We have many exciting events planned for that day, including a raffle, door prizes, and silent auction. I look forward to seeing you there.

Inside this issue:

Dear Friends and VLMP Volunteers,

The good news is that all the publicity about the threat of invasive aquatic plants seems to be working. People I talk to seem to be aware of the problem and want to know what can be done to combat it. The bad news is that many people don't know very much about the VLMP. They are unaware that the VLMP is the primary source of water quality data for Maine's lakes and ponds or that this organization is leading the effort to protect Maine's lakes from the threat of Invasive Aquatic Plants.

We have to change that.

For 30 years, the Maine Volunteer Lake Monitoring Program has been quietly building a statewide network of more than 400 Maine citizens who volunteer their time and effort to monitor the water quality of our valuable inland waters. The key word there is "quietly." Many people are vaguely aware that someone is monitoring the water on their lake or pond, but don't know who or whether they're associated with an organization. Many assume it must be the lake association that is overseeing the effort. They don't know about the VLMP.

The VLMP is one of the oldest and largest volunteer monitoring programs in the United States, and the organization is recognized nationally as a model of citizen-based environmental monitoring. In Maine, the VLMP is the only non-government organization working on a statewide basis to monitor lake water quality, collect credible scientific data, document potential threats to water quality, and provide education and outreach programs designed to raise public awareness about the ecological, aesthetic and economic values of our lakes.

Our strength is in the reliability and objectivity of our work. We collect data, thanks to our volunteers, and let the data speak for themselves. Our job is to present the facts, as objectively as possible, and to urge responsible action in response to those facts. My job as Development Coordinator is to make sure we have the resources to tell everyone in Maine about the VLMP and the work we do.

The VLMP is a true grassroots organization, created, run and sustained by volunteers. A gift to the VLMP directly supports our mission of protecting Maine's 5,785 lakes and ponds and providing public information and outreach about our lakes. Your contributions allow us to spread the word that the VLMP is leading the effort to protect our precious lakes and ponds.

Thank you for your support!

Becky Welsh
Development Coordinator

the Water Column

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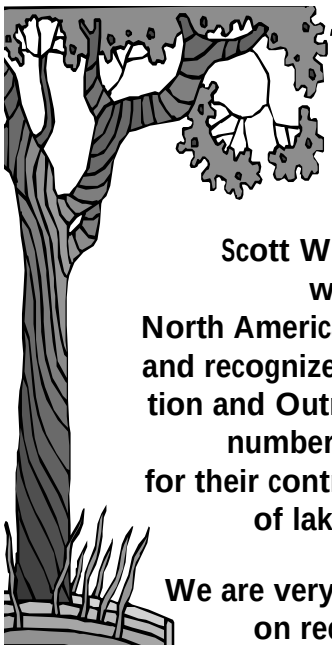


Tributes and Accolades

Scott Williams, VLMP Executive Director, was honored recently by the North American Lake Management Society (NALMS) and recognized for Technical Merit for Public Education and Outreach. Each year, NALMS recognizes a number of individuals and organizations for their contributions to the Society and the science of lake and watershed management.

We are very proud of Scott and congratulate him on receiving a 2000 NALMS Award.

Lakeside Notes

The VLMP celebrates thirty years of lake monitoring in 2001. As we pause to reflect on the history of the program, a number of remarkable thoughts come to mind. First, and foremost, is the fact that we are here to mark the occasion! Several years ago, the Maine Legislature nearly eliminated the program when funding to the DEP Lakes Program was severely cut. However, many volunteers – unfortunately, too many to mention here – were readily willing to go above and beyond their lake monitoring duties to help save the program. As a result, the VLMP is now the strongest it has ever been. By the end of the 2001-monitoring season, over four hundred thirty active, certified volunteers will be part of the program.

The next remarkable achievement of this program is the number of dedicated volunteers who have been involved for one, two, and in a few cases, nearly three decades. Very few volunteer programs can make such a claim. Our volunteers are committed, passionate, and rightfully proud of their work. Over the years, their efforts have produced hundreds of thousands of Secchi disk transparency readings, dissolved oxygen data, and educational benefits that are far-reaching. Without those efforts, much less would be known about our lakes. That knowledge has tangible benefits for everyone. It is the foundation for the effective stewardship and protection of our lakes. There is no question that the continued high quality of Maine lakes is in part due to volunteer lake monitors.

The themes of the VLMP 30th Anniversary Annual Meeting are "Recognition and Connections." We wish to honor those who have been with us over the years, and we hope everyone who attends will connect with old friends, make new acquaintances, and find ways to connect with the VLMP mission. Please join us at the Maine Conservation School on Lake Christopher on Saturday, June 23 for a morning of interesting presentations, entertainment, recognition, and much more. We look forward to seeing you!

Scott Williams
Executive Director

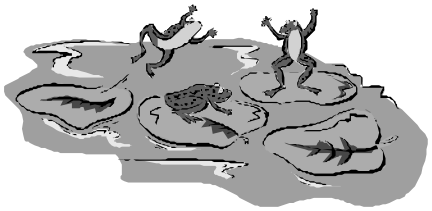
VLMP 30th Anniversary Annual Meeting

Saturday, June 23
Maine Conservation School
Bryant Pond, Maine

Registration and Refreshments……..8:30

Let the Meeting Begin……..9:00
Historical perspective of the VLMP, Bidding for Silent Auction items, Awards, Tales of Lake Monitoring, Raffle and Door Prizes.

Stick around for lunch……..12:30
It's free to all Volunteers, Coordinators and Board Members.



Announcement of Silent Auction items…..12:30-1:00

Board Meeting ……..1:30
Open to the public.

Don't forget to Bring your checkbook! Be sure to leave

Quality Counts!

Linda Bacon, Maine DEP Advisor

QMPs, QAPPs, SOPs...you ask, 'what have these to do with me?'

In a nutshell, all of these acronyms stand for 'defenses' in the war against entropy. Entropy is the tendency for systems to go from a state of order to disorder (Second Law of Thermodynamics). Fourth graders may be introduced to it as the 'laziness law'. Whether or not you learned about this concept in a formal classroom setting, *everyone* experiences it on a daily basis. If you have small children, it occurs in the form of toys left scattered around the house or worse, on the stairs. If you wear glasses or use car keys, entropy kicks in with the search for where these items were left last...

We try to convince our children to put away their toys, to hang up their clothes, to take off their boots before tracking mud all over the house in our efforts to keep the household from that slippery slope from order to disorder. If we train ourselves to always put our keys or glasses in a particular spot, the likelihood of finding them increases considerably. Your household 'rules' may or may not be written down but are understood & hopefully followed by the occupants of your house.

This approach in the battle against entropy has a lot in common with the SOPs, or Standard Operating Procedures used by the DEP and the VLMP. Ours need to be written down for a number of reasons. First, thousands of people have followed our procedures. These are not necessarily the best procedures or the most elaborate procedures. Rather, they are documented procedures. The value in following documented procedures is that the data collected 30 years ago can be directly compared to the data you collect tomorrow. Procedures followed by volunteers to obtain transparency readings 30 years ago have largely remained the same. Yes, the view scope has changed slightly, but the 'rules' we strive to follow have remained the same. SOPs for other types of lake sampling assure consistency as well. There are SOPs that are followed in getting your transparency reading into the master database. Your transparency value is not just thrown in, it has your name, your QA Certification number, the lake ID number, time, date and weather conditions when it was collected attached to it. A data entry specialist inputs the data into a standardized format. The data is proofed and corrected, then lands in the company of other quality assured points in the master database. These procedures assure all users of the data that a data point is a valid reading.

The QAPP or Quality Assurance Project Plan is akin to describing the structure and operations of your household. It is a list of who's who, who does what and how they do it (SOPs). Take homework, for example. It is understood that when the child number one gets home from school, his/her first priority (before TV) is homework. They follow the teacher's directions (SOP#1) for doing their homework. When finished, mom checks for completeness and errors (SOP#2). When satisfied, mom initials the assignment notebook at the teacher's request (SOP#3). The child brings the homework into school the following day (alas, SOP #4). Likewise, the VLMP QAPP documents which SOP is used for transparency, which one for dissolved oxygen, even the SOP for the flow of data from submission by the monitor to receipt at DEP. Other details included in the QAPP include how VLMP is staffed, who is responsible for what activity, how staff relates to the Board of Directors, how often the directors meet, who at DEP is responsible for what, QA Certification workshop details and the like. A QAPP is an instrument that seeks to leave nothing to chance...it lays out the information necessary to maintain organization and minimize the effects of entropy.

A QMP, or Quality Management Plan, is at the top level in this hierarchy. Since different projects can exist at the same organization, this overarching plan keeps track of the various QAPPs and SOPs, from where they are kept and who is responsible for each, to when and who needs to update them. Yawn. Zzzz. Now its time to deal with those unwritten family SOPs: daycare...karate...homework...supper...dishes...baths...and alas, finally bed!

To assure quality, remember to...

Review the sampling procedures *(SOPs)*
Inspect and clean your equipment
Attend a Recertification workshop if not *current*
Use the new field forms
Enter your QA Certification number
Enjoy your Lake!
...and register your boat

Volunteer Monitor's Perspective

History of the VLMP

The following article by Matt Scott, an aquatic biologist and the founder and former Director of the Lakes Division at the Maine DEP, provides us with an important historical perspective of lake monitoring in Maine. It shows us the evolution of the VLMP, and the often rocky path that we have traveled during the past three decades. It also makes clear the loss of Legislative and financial support for Maine lakes over the period. The lakes staff at the Maine DEP today is limited to 4.5 people, compared to 25 in the 1970's. It is hard to fathom this loss, especially in light of what we have learned in recent years about the economic value and ecological vulnerability of our lakes. Our thanks to Matt for this article and for his dedicated efforts on behalf of Maine lakes.

In 1970 Bill Adams and Rayburn McDonald hired me as the first biologist for the Maine Environmental Improvement Commission. At that time I was a Fisheries Biologist with the Maine Department of Inland Fisheries and Game. The staff at EIC was about 24 persons. My mission was to work on two tasks, a lakes program and aquatic organisms as pollution indicators. The environmental movement in Maine was in full swing and the Commission became the Department of Environmental Protection in 1971, with Bill Adams as the first Commissioner under Governor Curtis. The DEP was to grow with new legislation and additional staff. Much legislation was already centered on the Site Location law and the Oil Conveyance law. The Land Use Regulation Commission had been created as an independent Commission in Maine government two years earlier.

A great deal of attention was being generated about Maine lakes, lake associations and the formation of the Maine Congress Of Lake Associations. Sterling Dow from the NRCM and Pat Stimets were the forerunners for COLA. Researchers at Bates, Colby, University of Maine, Nasson College and various State Agencies were doing Lake monitoring, planning and surveys. However monitoring was thought to be a major chore, as we had not characterized all of Maine's lakes and opinions were varied on the number of Lakes and ponds Maine had. Gerald Cooper's early work helped provide a baseline of fishery information, but there were no Secchi Disk data. Various meetings were held to develop a collaborative approach. At the University a group called the Committee for the Advancement Of Lake Studies, CALS, was formed with Steve Norton as the chair. The idea was to bring everyone together to find out who was doing what and how the DEP would fit into this picture. Several scientists on CALS offered the US Weather Service volunteer program as a model.

In 1971 Henry Mann of the DEP, Wayne Hall of the University, and I drafted a very simple piece of legislation to allow volunteers to be used in our water quality programs, creating the concept of water quality monitors. Dr. Earl Pulsifer, a dentist from Damariscotta Lake, should be credited in fostering the idea. We all felt a cadre of well-trained volunteers would solve a major data-gathering problem. So, this enabling legislation was enacted under Maine law without funding. Training sessions were held at Orono and collaboration between the USGS, DEP, educational institutions and IF&W continued. Workshops were held to discuss the water quality standards that should be applied, and which agency should handle the data. Several logistical approaches were suggested, including developing satisfactory phosphorus standards for Maine lakes. We tried a variety of training structures, but coordination was lacking. These issues had to be resolved for the program to succeed.

Finally, after many sessions of training, developing data sheets, and laboratory procedures for analysis, it was concluded that the DEP should assume full responsibility of the Volunteer Monitoring Program for Maine lakes. Within the DEP, I created a Lakes Division, which became the crown jewel of the Department with national recognition throughout its existence. Volunteer lake monitoring was in its infancy and my visit with G. E. Hutchinson (author of standard reference texts of limnology) at Yale back in the 1970's supported the concept and the need to gather more information on our lakes in Maine. With the advent of lakeshore development and the increased value of shoreline property, the data collection became available and valuable to everyone. We had moved into the reality of ecological concepts that change was taking place on

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History of the VLMP...continued from page 5

our lake landscape, and that the watershed was the interregnal part of protecting those economic and ecological values for the future.

Through the education of our volunteers, terminology such as "cultural eutrophication" became more widely understood. Repeated sampling through the volunteer program was to provide a baseline for future comparison to see what trends may be. "Trophic status" was another term that came into widespread use with Bob Carlson's work in the use of Secchi disk data. Programs in Michigan, Ohio, Wisconsin, Minnesota and Florida were all in the early stages of utilizing volunteers to monitor lakes. Funding of the program in Maine became a reality through the DEP, while Gardner Hunt and Charles Eivin at the DEP developed the final analytical procedure for phosphorus.

I retired from the DEP in 1988 leaving a staff of 25 employees in the Lakes Division. With the arrival of Dave Courtemanche in 1971, we introduced the concept of macroinvertebrate studies, realizing Ray McDonald's dream of stream pollution indicators, as well as Bill Adams' vision for protecting Maine lakes. The administration of Governor McKernan in 1988 decided to drastically reduce the lakes program in size and monitoring activity due to the poor economy and the need to make state budget cuts.

In the mid 1990's, the DEP approached COLA to assist in the administration of the volunteer monitoring program. The COLA Board of Directors and Scott Williams, a technical advisor to COLA, decided to form a special committee to explore the feasibility of forming a separate nonprofit organization for volunteer lake monitoring. As a result, the program became independent as a 501(c) 3 organization in 1995, called the Maine Volunteer Lake Monitoring Program. Now, under the direction of Scott Williams it has proven to be the best solution to continue the program, with quality control oversight by a non-governmental organization. NGO's are now very popular with volunteers and are succeeding quite well. Scott has done a superb job, and we in Maine should be grateful that the lakes monitoring program continues as a crown jewel of the State. With a decision-making Board of volunteers it has good financial control. Through these recent years the program has gained greater recognition from the DEP and US Environmental Protection Agency.

I think that Maine, Michigan and Minnesota were all tied in the development of lake volunteer monitoring programs in the 1970's but Maine, by statute, created enabling legislation in 1973. Official funding of lake monitoring for the Maine DEP was created in 1974 but volunteers were in a DEP monitoring program in 1971.

I congratulate the Maine VLMP and wish them well for its 30th anniversary and continued existence into the next millennium. I too am proud to be one of your lake volunteers.

Matthew Scott
Volunteer Monitor
Pleasant River Lake

The Great North American Secchi Dip-In

Participate in a nationwide extravaganza.

June 30 through July 15
2001

Watch for your entry form in the mail!

For more information visit— http://dipin.kent.edu/

Grab your Secchi Disk and Dip In !

VLMP Launches New Programs in 2001

"Mentor" and "Lake Watershed Ecology Educator" Program

The Mentor Program is designed to provide volunteers who would like to take an active role in the training and certification of volunteer lake monitors with an opportunity to do so. Under this new initiative, individuals who would like to assist VLMP and DEP staff with new volunteer orientation and re-certification workshops will receive special training. The Mentor Program will allow volunteers who have expressed an interest in taking a more active role in the VLMP with an opportunity to assist staff and help to preserve limited program resources.

In addition to receiving specific information to be used as volunteer training workshops, Mentors will be provided with information that will help them to serve as lake watershed education leaders for lake associations and lake watershed communities. A course covering aspects of lake ecology, water quality monitoring, and lake protection tools will be offered to participants in the program. For those who are interested primarily in helping with volunteer training workshops, an introductory course and periodic certification as a trainer will be required. For those who wish to go a step farther, and become lake education leaders in their communities, a more extensive classroom experience will be available.

The Mentor Program in 2001 will be limited to determining the extent to which volunteers are interested in participating in this program. An initial meeting will be held at the VLMP office during August with preliminary applicants.

If you are interested in becoming a VLMP Certified Volunteer Mentor, please contact the VLMP office. We will be happy to answer questions and provide you with information about the August meeting.

Volunteer Training for Advanced Water Quality Monitoring

The majority of volunteers in the VLMP collect Secchi transparency data. The information gained through Secchi disk readings is very useful, cost effective and it can be obtained quickly. For those who wish to go to the next step in lake monitoring, water temperature and the concentration of dissolved oxygen (DO) in the water can be measured. Approximately 90 VLMP monitors have been certified to collect temperature and DO data.

A volunteer calibrates his dissolved oxygen meter

Depending on the equipment that is used and other factors, the collection of temperature and DO data can be time-consuming and relatively costly. At present budget levels, the VLMP and DEP are not able to provide volunteers with the necessary equipment for this level of monitoring. However, dissolved oxygen wet chemical kits are available at a price that is affordable to lake associations and other groups (approximately $50). An additional device that is needed to obtain samples from different water depths can be obtained, or fabricated relatively inexpensively ($75+). Another option for measuring temperature and dissolved oxygen is to purchase a DO meter with an attached cable and probe. The use of a meter greatly reduces sampling and analysis time, but the increase in convenience is reflected in cost. A reliable DO meter, cable and probe can cost from $900-$1,500, and more. While DO meters are convenient and results can be obtained relatively quickly, they are generally no more accurate than the less expensive chemical kits.

Over the past few years a number of volunteers have expressed interest in learning methods and procedures for even more advanced lake water quality monitoring that is often referred to as "baseline" sampling. A small number of volunteers on lakes with priority water quality issues have received special training to collect color, total phosphorus (TP) and chlorophyll-a (CHL) samples. Baseline sampling is done in conjunction with

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Volunteer Training...continued from page 7

Secchi and dissolved oxygen sampling. The additional equipment needed to collect total phosphorus and chlorophyll-a data is minimal, consisting primarily of a flexible "coring" tube, a mixing vessel, and appropriate containers to hold samples.

The analysis of both total phosphorus and chlorophyll-a is done through professional laboratories. At present, there are no simple, inexpensive devices available to measure either of these important indicators at the very low concentrations typically found in lake water. Phosphorus and chlorophyll samples must be analyzed within a few weeks of when the samples are collected. They must be kept cold or frozen, and chlorophyll samples must be preserved shortly after collection. Laboratory analysis fees for both indicators are reasonable, but not all labs have the capability of analyzing P and CHL.

Volunteers collect a core sample for P and Chl-a analysis.

The primary limitation to more widespread volunteer training for advanced baseline sampling has been the concern over the availability of adequate resources to provide volunteers with the necessary level of quality control for this process. Training sessions for baseline sampling may last for several hours, and volunteers who become certified to collect baseline data must be re-certified annually.

The VLMP and DEP are initiating an advanced dissolved oxygen and baseline sampling training program in 2001 for volunteers who are already certified to collect Secchi transparency data (minimum one year of experience). Volunteers who participate must be prepared to make a significant time commitment to training, annual re-certification, and the cost of equipment and any laboratory fees. The VLMP will provide volunteers with equipment required to collect core samples (see VLMP 2001 Annual Report for more information on the types of samples taken in lakes).

Both staff and financial resources for baseline training are limited. Depending on the level of volunteer interest in this program, it may be necessary to limit training to individuals who are sampling lakes with a special need for additional data. The 2001 dissolved oxygen and baseline sampling program will begin with a meeting at the VLMP office in August. Volunteers will meet with VLMP and DEP staff to discuss their particular interest in advanced monitoring. Please contact the VLMP office if you are interested in attending.

Invasive Plant Patrol Workshops

In July and August, the VLMP will conduct several Invasive Plant Patrol workshops throughout Maine. The workshops are designed to provide the attendees with information about invasive aquatic plants in such a way that they will have a basic understanding of the nature of the threat of aquatic invaders, and of ways to lower the risk of this threat to Maine lakes and ponds. Workshop participants will be provided with information and tools to allow them to help raise public awareness about the threat of invasive species in their communities. Public awareness is a first and critical step toward effective prevention. Volunteers will also be trained to perform an inspection of boating equipment, both for their own equipment, and to pass the information on to others.

The second phase of the workshop will entail training volunteers to conduct a "screening survey" for invasive plants. Identification references will be provided to participants, who will have an opportunity to compare live specimens of native plants to live and preserved specimens of target invasive species. Screening surveys of specific water bodies can be conducted at different levels of intensity, depending on the interest and ability of volunteers to commit time to a project. A four-tiered option of the surveys will be presented at the workshops:

Tier 1 - will be limited to areas at, and near public access points, where aquatic invaders are likely to be introduced, and are often first found in a lake.

Tier 2 - will cover a larger percentage of the shoreline, particularly areas where native aquatic plant populations are established. Shallow coves and sheltered shoreline areas would be high priority survey areas at the tier 2 level.

Tier 3 - would involve screening the entire shoreline of a lake for invasive aquatic plants.

Tier 4 - are intended to document the presence of both native and invasive plant communities. The tier 4 approach is intended to assist the Maine DEP in the long-term monitoring of aquatic macrophytes (rooted aquatic plants) over a period of time. This approach assesses human-influenced changes in the shoreline and the physical lake environment, and their potential effect on aquatic plants. Dave Halliwell, a Biologist with the Lakes Environmental Assessment Section at the Maine DEP, has written additional details about the Tier 4 approach. *(See page 9)*

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Invasive Plant Patrol Workshops… continued from page 8

While it may not be realistic to expect that all volunteers will develop the skills required to distinguish between native plants and all of the target invasive species, it is feasible to train members of the public to recognize distinguishing characteristics of the most likely invaders. Volunteers who can identify *any* of the target species may substantially reduce the likelihood that an early infestation will spread throughout a lake or pond. Early detection is one of the only methods that have been shown to be effective in the eradication of invasive plants.

The number of workshops in 2001 is limited by staff time and financial resources. Registration will be limited to fifteen persons per workshop. Each workshop will last approximately three to four hours, depending on the number of participants.

VLMP Invasive Plant Patrol Workshops 2001

To register, please contact the VLMP office two weeks prior to the workshops. **207-225-2070** or **vlmp@megalink.**

Date	Location	Time
June 27	Turner–VLMP	10-1
July 11	Turner–VLMP	1-4
July 28	Roxbury Pond	9-12
August 4	Standish (Portland Water Dis-	9-12
August 7	Belgrade	9-12
August 15	Mid Coast	9-12
August 18	Turner-VLMP	10-1

Maine VLMP Invasive Aquatic Plant Patrol Tier 4 Survey

Dave Halliwell, Maine DEP- LAKES EA Section

Maine Lake Shore Bio-Complexity Project - Physical, Biological, and Human Interaction-Development: Pilot Study Methods.

This detailed study option for the long-term monitoring of aquatic macrophytes in Maine lakes encompasses the annual systematic assessment of in-lake (littoral zone), lake shore (shoreline zone), and lakeside (riparian zone) habitats. Information collected through successive yearly Tier 4 surveys will allow the tracking of native and exotic (invasive) aquatic plant assemblages in a lake over time in relation to changes in lake shore human developmental pressures. This lake physical habitat/shoreland disturbance study approach is based on the recent USEPA-USFWS Surface Waters/Northeast Lakes Environmental Monitoring and Assessment Program (EMAP) field techniques (Baker et al. 1997, Kaufmann et al. in preparation).

The process involves establishing a *minimum* of 10 evenly spaced, permanent habitat station observation plots around the perimeter of any given lake (or basin, in multiple basin lakes). During mid-to-late summer, the survey crew visits each of these ten stations and records a set of visual physical habitat/ aquatic macrophyte observations and dated photographic documents. Permanent on-shore markers should be placed to serve as a focus-point for site-specific, year-to-year documentation.

The survey procedure requires starting at, and including the downwind side of the boat launch (primary reference point), at which point the team positions the boat at a distance of 10 meters (approx. 30 feet) offshore, sets anchor, and makes semi-quantitative physical Habitat (P-Hab) characterizations. While traveling between the P-Hab stations, survey crews make a qualitative map and classify macro-scale riparian and littoral habitats of the lakeshore area. The survey crew should attempt to make a complete near-shore pass around the lake, monitoring both the 10 P-Hab stations and the between-station physical macrohabitat assessments in a single, typically 1/2 to full-day, operation. Note: The riparian (50 x 50 ft.) and littoral (30 x 50 ft.) observation plots have fixed dimensions that are estimated by eye. The shoreline zone extends 1-m (3.3-ft.) inland from the existing lake waterline.

Address questions about Tier 4 surveys to: Dave Halliwell @ 287-7649

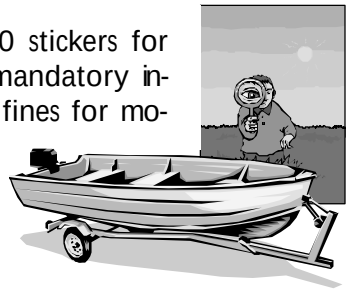
References:

Baker, J.R., D.V. Peck, and D.W. Sutton (eds.) 1997. EMAP Surface Waters Field Operations Manual for Lakes. EPA-620-R-97-001. US-EPA, Corvallis, OR.

Kaufmann, P.R., R.M. Hughes, T.R. Whittier, and S.A. Thiele (in review). Lake shore and littoral habitat characterization: precision and biological relevance of a field method.

Proposed Invasive Aquatic Species Legislation

During the past several weeks, the Natural Resources Committee of the Maine Legislature has considered a number of initiatives to control the introduction and spread of invasive aquatic species in Maine lakes and ponds. Two public hearings and several work sessions have been held during the period, at which time many people testified in favor of various forms of legislation. The possibilities that have been considered by the NRC have ranged from highly regulatory and punitive approaches to those that focus more on public education and the fostering of stewardship.



One proposal would have required the purchase of $100 stickers for motorists who enter the state with boating equipment, mandatory inspections of boating gear at all state borders, and severe fines for motorists who do not have stickers, or who are found transporting invasive plants on their equipment. The more stringent proposals would also have required the immediate inspection of all Maine lakes for the presence of aquatic invaders.

In the end, a more reality-based proposal was passed unanimously by the NRC. The bill, which must now be approved by the full Legislature, would require many of the recommendations that were made by the Invasive Aquatic Species Workgroup (on which the VLMP served), including vulnerability analysis and risk assessment for individual lakes, a rapid response protocol for early infestations, and extensive educational efforts, including the continuation of the very successful VLMP education and outreach program, and Invasive Plant Patrol workshops.

To help cover the cost of this ambitious effort, the NRC has proposed a mandatory $15 sticker that must be attached to all motorized watercraft that use Maine waters. The sticker fee will support the activities listed above, and it will provide funding for additional personnel at the Maine DEP and IF&W. The NRC proposal would also require the initiation of a voluntary boat inspection program in 2001. Inspections would be done by IF&W and DEP staff, and by volunteers who would work with Departmental staff. The proposed bill would increase fines for motorists found transporting aquatic plants on their vehicles, and the enforcement provision of the existing law would be strengthened.

Many of the provisions of the NRC bill, including the sticker program, will not be fully implemented until 2002. Funding for pilot programs in 2001 would be obtained from the General Fund, which would be reimbursed from sticker fees in 2002. The most recent version (as of May 16) of the proposed legislation can be viewed at the Maine DEP web page: **mainedep.com**

Throughout the legislative hearing process, the VLMP has maintained a position of general support for all initiatives that are intended to prevent the introduction of invasive species to Maine waters. We have emphasized the importance of an informed public above all else. Education and public outreach efforts can, and have already reduced the risk of aquatic invaders to our waters. The VLMP will continue to produce and distribute information to the public concerning the nature of IAS, and simple measures that can be taken by responsible individuals to substantially reduce the overall risk of this threat.

Does the boat landing on your lake have a invasive aquatic plant warning sign posted?

How about the new red sticker stating "it's the <u>LAW</u>"?

Help Spread the Word about the threat of invasive aquatic plants!

Please contact the VLMP office to request update stickers and signs.

Thank You!

Place the new *Red* sticker here

Volunteer Surveyors Needed For Invasive Species Risk Assessment Project

The VLMP and Maine DEP in collaboration with UMF are seeking volunteers to participate in a survey of public boat launch sites this summer. Data are needed to determine which lakes are most at risk of becoming infested by invasive aquatic species. For more information, please call or email the VLMP office.

Phone: 207-225-2070
Email: vlmp@megalink.net

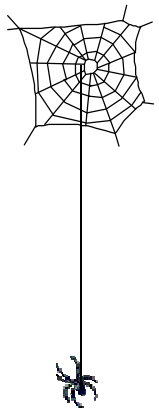
WEBSITES of INTEREST

http://www.mainevolunteerlakemonitors.org
(VLMP website-access to all of the following links)

http://www.mainedep.com
(Extensive lake education information)

http://www.umaine.edu/waterresearch
(University of Maine, George J. Mitchell Center for Environmental and Watershed Research)

http://pearl.spatial.maine.edu
(PEARL, Public Educational Access to Resources on Lakes)



http://www.pwd.org
(Portland Water District)

http://www.powerlink.net/cwd/
(Cobbossee Watershed District)

http://www.gwi.net/~cola
(Maine Congress of Lakes Associations)

http://www.mlci.org
(Maine Lakes Conservancy Institute)

http;//www.mainelakes.org
(Lakes Environmental Association)

http://www.nalms.org
(North American Lakes Management Society)

http://dipin.kent.edu/
(Secchi Dip-in Homepage, great links and information)

http://www.dnr.state.wi.us.org/water/fhp/lakes
(Wisconsin Lakes Partnership)

http://wow.nrri.umn.edu/wow/index.html
(Water on the Web, state of the art monitoring equipment deployed in lakes and real time data available along with in-depth educational material. It allows interested people to track lake conditions and learn more about lakes.)

http://www.dnr.state.wi.us/org/water/fhp/papers/lakes.pdf
(Information about buffers and riparian management from Wisconsin)

http://www.pca.state.mn.us/water/lake.html
(This Minnesota site has good information about lakes)

http://www.des.state.nh.us/wmb/exoticspecies/
(New Hampshire Department of Environmental Services information on Invasive Aquatic Species)

http://www.anr.state.vt.us/dec/waterqc/ans/ans-index.htm
(Vermont Department of Conservation information on Invasive aquatic species)

http://www.aquat/ifas.ufl.edu/welcome.html
(University of Florida site contains good links and information on IAS)

http://www.ecy.wa.gov/programs/wq/plants/
(Washington State information on freshwater plants)

http://www.fw.umn.edu/research/milfoil/milfoilbc.html
(Minnesota website with information regarding research on controlling IAS)

Coming Soon...

VLMP collaborates with Maine Stream Team Program .....Stay Tuned!!

The **Water Column** is the newsletter of the Maine Volunteer Lake Monitoring Program, and is published quarterly. Please address questions or comments to:
Amy Shnur, Editor, P.O. Box 445, Turner, ME 04282.
We also welcome phone calls: (207) 225-2070. Email- ***vlmp@megalink.net***

Inside this Issue : **VLMP Celebrates 30 years of Volunteer Monitoring!**

Maine Volunteer Lake Monitoring Program
P.O. Box 445
Turner, Maine 04282

Email***: vlmp@megalink.net***

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Maine Volunteer Lake Monitoring Program

Celebrating 30 Years of Volunteer Monitoring in Maine
on June 23, 2001 at the Maine Conservation School on Bryant Pond

This annual meeting has been generously supported by the Maine Conservation School
The Maine Department of Environmental Protection and the US Environmental Protection Agency

8:30……..Registration and Refreshments

9:00……..Let the Festivities Begin!

- The History of Volunteer Lake Monitoring in Maine
- Bidding for Silent Auction Items
- Awards...Awards and More Awards!!!
- Tales of Lake Monitoring– including skits you won't want to miss!
- Update on Invasive Species Legislation
- Raffle
- Door Prizes
- Lots of smiles and laughter!!!

12:30……Lunch (Free to all Volunteers, Coordinators and Board Members)

12:30-1:00…...Announcement of Silent Auction Winners

1:30……..Board Meeting and QC Recertification Work-shop

✂

Pre-registration is requested so that we can ensure meals and materials for all. Please send registrations to: VLMP, P.O. Box 445, Turner, ME 04282 by June 13. There is no charge for volunteer monitors, regional and data entry coordinators, Board members and speakers. The cost for all others is $9.00 each.

Name: _____ Number Attending _____

Address: _____ Amount Enclosed $ _____

_____

Phone: _____ ***Thank You!***

Directions to the Annual Meeting are printed on the back of this sheet.

Directions to the VLMP Annual Meeting:

The Maine Conservation School is located on Lake Christopher in the village of Bryant Pond. Take Route 26. From Bethel, it is eight miles South or eighteen miles North of South Paris. In Bryant Pond (also called Woodstock) turn onto Lakeside Road at the Maine Conservation School Sign (there is a ball park at the corner) and travel one mile passing the lake (on the left.) Turn left when at the green and white sign for the school.

Reference: Maine Atlas & Gazetteer Map 10, Section B-5