



the Water Column

Vol. 6, No. 2

Provided free of charge to our monitors and affiliates

Fall 2001

Demystifying Milfoil

Roberta Hill and Scott Williams

Almost everyone has now heard of milfoil, that nasty invasive plant that threatens to ruin Maine's lakes. But there seems to be some confusion. How many types of milfoil are there? Is milfoil native to Maine? If not, how long has it been here? If so, why are we so worried about it? Is milfoil the only aquatic plant that threatens Maine's lakes? Much of the confusion may come from the way the term "milfoil" has been used in recent months.

"Milfoil" has been used as a catchword to get the message out about the threat of invasive aquatic plants in Maine. There was the "Maine Milfoil Summit," the "Milfoil Bill," and the formation of the "Maine Milfoil Coalition," etc. Having a word that people could easily identify with has been extremely helpful in raising awareness. *But the practice of reducing a complex problem to a single generic term always has its down side. It fails to provide an accurate and complete picture. The term "milfoil," when used to describe the current threat of invasive aquatic plants to Maine's lakes, is limited and potentially misleading for a number of reasons.*

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Thoughts from Your President

Peter Fischer

My name is Peter Fischer and I am excited to be the new president of the board of directors of the VLMP. On behalf of the VLMP, I thank both the past presidents, Joe Flanagan and Jean Demtracopolous for their good service. I come to this job from the "field" as I am the regional coordinator for Lincoln and Sagadahoc counties and the monitor of Boyd Pond in Bristol.

In this time of national crisis, we Americans feel a new-found or reborn need to defend our way of life. I believe that spirit is alive and well in we volunteer monitors of our local environment. We recognize that maintaining Maine's way of life requires us to watch over the

natural environment that we so cherish. This is best done by grassroots environmental monitoring by those who live in that environment. **That's us!**

Please keep up the good work. Take your monitoring job seriously because the data you collect will affect the future of your lake in ways that we may not know for years to come. The monitoring season will have ended for most of us by the time you get this newsletter. Make sure you get your data into your regional coordinator - send the original - keep the copy. As you can see I'm "field" oriented. I'm also very proud to be a part of the VLMP. **Thanks for your efforts.**

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Dear Friends and VLMP Volunteers,

As I write this, I'm still reeling from the horrendous acts of terrorism on September 11 in New York and Washington. Like everyone else, I'm struggling with how to deal with what has happened and the changes it will cause in all our lives.

Our generosity and compassion as a nation shines through at a time like this. The dollars that have been raised in a very short time to support disaster relief efforts are staggering, and it makes me proud that I'm part of a country that is so ready and willing to help others. I think the overwhelming need we all feel is to "do something," something to help.

One of the most important things we can do is to sustain and support the values that are important to us, especially in times of turmoil. The old slogan, "think globally, act locally," is still apt. Supporting and strengthening what makes life good keeps our communities and our resources strong.

I was reminded, through my own personal reaction to this crisis, of the spiritual importance of water. Through the years, I've always "gone to water" for solace and comfort in difficult times, or to think through decisions I've been faced with, or just to cen-

ter and clear my mind. The "water" has changed, from the shores of Lake Erie where I grew up, to Casco Bay, to the banks of the Androscoggin, where I now live. But the need to "go to water" has remained constant.

We talk a lot about the economic and recreational values of Maine's lakes, but their spiritual values are just as important. I'm willing to wager that every person reading this newsletter shares that belief or you wouldn't be reading this. The beauty of a pristine Maine lake, the sound of the water lapping at the shore, the rhythm of water's movement, and the clarity of the water are all intrinsically linked to our spiritual well-being. We are very lucky to have nearly 6,000 lakes in Maine, and we are very lucky that we are part of a network that has taken good care of our waters.

Thank you for all you do for Maine's lakes and thank you for your important support of the VLMP.



Becky Welsh
Development Coordinator

Changing Roles...

The Board and Staff of the VLMP send a heart-felt THANK YOU to Joe Flanagan, who completed two years as President of the VLMP Board in June. We didn't let him get very far, though, as he stepped into the position of Vice President.

We welcome Peter Fischer as our new President and look forward to working with him this year. Peter has been on the Board for several years, and is active in the Pemaquid Watershed Association. Peter serves as both a volunteer monitor and Regional Coordinator for Lincoln and Sagadahoc Counties.



Left: Peter Fischer, Right: Joe Flanagan
Annual Meeting 2001

We would also like to welcome the following individuals who have joined the Board: Mary Jane Dillingham of Auburn, Dick Thibodeau of Turner and Bill Monagle of Winthrop.





the Water Column

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2001 Annual Fund Donors

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Pemaquid Watershed Association
Pleasant Pond/Parker Pond Association
Portage Lake Association
Summer Haven Lake Association
Toddy Pond Environmental Association

Foundations

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THANK YOU to the many Friends and Supporters of the VLMP who have contributed to the Program so far this year.

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St. Croix International Waterway
The Theatre at Monmouth
The Village Inn
VWR Scientific Products

University of Maine at Farmington Student Completes Internship

Thanks to Prof. Dan Buckley at the University of Maine/Farmington, we enjoyed the help of Jake Losey of Fayette as a Summer Intern at the VLMP. Jake was very helpful with all operations of the VLMP. His various tasks included distributing educational materials in response to the flood of requests for information regarding invasive aquatic plants, and preparing hundreds of Invasive Aquatic Plant Prevention Packets and materials that were used at the Plant Patrol workshops held this past summer. Jake also had the opportunity to assist the VLMP staff with plant specimen identification and baseline sampling on over a dozen lakes throughout the State.

In addition, Jake helped secure materials for an information resource center here in the VLMP office in Turner. He built an impressive wall unit, which will house educational materials, including a computer and multi-media presentations.

Jake was a very helpful fourth hand here this summer, and we appreciate his help in many areas. Thanks to UMF for making it possible!



Everyone's Talking About the Weather

Maine has experienced another beautiful summer, with an abundance of warm, sunny days. The weather has been nearly ideal for lake monitoring, and for just about any other outdoors activity. But for some, July and August were just a little too bright and dry. Precipitation averages for both months were below average throughout much of the state. Now, in mid-September, much of Maine is experiencing a major drought. The first two weeks of the month have been very dry. Domestic wells are beginning to dry up as the water table falls, and lawns and woodland saplings are looking parched and stressed. 2001 is the third very dry summer in Maine during the past several years.



On the more positive side of the drought, many Maine lakes appear to have been exceptionally clear last summer. In 1999 the VLMP and Maine DEP evaluated a group of Maine lakes (using volunteer Secchi disk transparency data) to determine if the lack of rain and runoff during the spring and summer months might be affecting Secchi disk transparency (clarity). The observational study showed that many lakes were indeed clearer that year. During this past summer, we have heard from a number of volunteer monitors and other lake users who have indicated that their lakes were "clearer than average".

Of course, the natural processes of precipitation and runoff are not inherently bad for lakes. But runoff that is contaminated with phosphorus and sediment from developed land in the watershed, also known as "nonpoint source pollution" is bad for water quality. The dry summers that we have experienced have shown us how clear many of Maine's lakes could be if everyone would take steps to divert, filter and clean stormwater runoff before it flows into the lake.

Threats to Maine Lakes: A Perspective

Nearly three years ago the VLMP and Maine DEP initiated a program to inform the public about the

threat of invasive aquatic plants to Maine lakes and ponds. The effort involved extensive outreach strategies to numerous target groups, including volunteer lake monitors, boaters, lake associations, fishing organizations, schools, the media, and last but certainly not least, the Maine Legislature. Additional organizations and agencies were also recruited during the period to help spread the word about a threat to Maine lakes that was largely unknown in Maine. The VLMP staff has been "on the road" presenting information to target interest groups almost every weekend for the past three summers!

The invasive aquatic plant prevention program has been extremely successful. The TV and newspaper media have been helpful in spreading the word through numerous headlines, interviews and stories that sometimes bordered on sensational. Lake associations throughout Maine were jolted into action by a menace that seemed to be more ominous and tangible than other known threats to our lakes and ponds. As a result, public awareness of invasive aquatic plants had increased substantially when legislation was proposed in 2000 and 2001. The passage of both laws led, among other things, to public boat launch and roadside inspection programs throughout Maine during the month of August. For more details about the most recently passed legislation, please refer to the article herein.

While public awareness about aquatic invaders has increased substantially, this threat should not overshadow other serious threats to Maine lakes.

Some of those problems are already here, taking their toll on water quality. First, and foremost among these is nonpoint source pollution, sometimes referred to as "polluted stormwater runoff". Nationwide, NPS is the primary threat to lake water quality. Maine lakes are no exception to this. Polluted runoff from developed land in lake watersheds can cause the water to become less clear as a result of increased growth of algae. The loss of water clarity is a significant concern. Studies conducted in Maine have concluded that the public values water clarity more highly than any other lake characteristic.



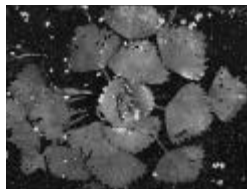
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First, several milfoil species are native to Maine lakes. These plants are not harmful or scary. In fact, like all of our native aquatic plants, they provide many benefits to the lake ecosystem. Native plants provide essential habitat for wildlife and protect water quality by taking up nutrients and protecting the shoreline from wave and wake action. Native aquatic plants are good for our lakes and ponds. It would be most unfortunate if the public were to think that all members of the milfoil family were undesirable, and that they should be removed.

Second, there are several non-milfoil plants that are just as likely to invade Maine's lakes in the coming years as the invasive milfoils. The current list of "Maine's most unwanted aquatic plants" (determined by the Maine DEP, and included in the laws passed by the Maine Legislature in 2000 and 2001) includes the following eleven: Brazilian elodea, Curly leaf pondweed, European naiad, Fanwort, Frogbit, Hydrilla, Water chestnut, Yellow floating heart, Parrot feather, Variable-leaf milfoil and Eurasian watermilfoil. *Only the last three are actually milfoils. But all of these plants have been identified as imminent threats to Maine lakes.*



Left: Hydrilla, photo courtesy of University of FL Center for Aquatic and Invasive Plants.



Right: Water Chestnut, photo courtesy of the Vermont DEC.

Here is an example of how generic language can be confusing. A Sebago Lake website posts the following Sebago Lake "fact."

"Water plants native to the lake include pipewort, bur reed, water lily, spikerush, pondweeds, water celery, coontail, water milfoil."

"There are several non-milfoil plants that are just as likely to invade Maine's lakes in the coming years as the invasive milfoils."

Though the statement above is very likely accurate, in light of the recent attention focused on non-native invasive milfoils, the listing of "water milfoil," without further explanation, has caused some confusion, to say the least. Some have taken the statement to mean that the milfoil that has appeared in the tributaries and coves of Sebago Lake over the last twenty years, (Variable watermilfoil (*M. heterophyllum*), is native to Sebago Lake and therefore nothing to worry about.

Variable watermilfoil is *not* native to Sebago, to Maine, or even to New England. According to biologist C. Barre Hellquist, coauthor of *Aquatic and Wetland Plants for Northeastern North America*, the plant migrated, by way of human activity, to New England from the south and west (e.g., Michigan and Oklahoma) some time in the 1940s.

According to Biologist David Cortemanch, Manager of Environmental Assessment at the Maine DEP, variable watermilfoil (*M. heterophyllum*) was first identified in Sebago Lake in the late 70s, and it was likely present in the lake for a few decades before it was identified.

There are many species of watermil-

foil (genus *Myriophyllum*) worldwide. The *National List of Plants Species that Occur in Wetlands* lists six milfoils that are native to Maine. This is why the website fact is likely accurate. It would not be surprising to find one or more of these native milfoils in Sebago Lake. Indeed, during the past two years, the VLMP, PWD and DEP have received requests to identify many aquatic plant specimens that have turned out to be native milfoils.

But variable milfoil is not native to Maine. Yet, it has been here for years, and it hasn't taken over Sebago lake. What's the fuss?

Here's the fuss: Variable watermilfoil, which grows to a maximum depth of ~12 feet, will never overtake a lake like Sebago that is dominated by deep water habitat (often exceeding 100 feet), but it can become a significant nuisance in coves and near shore areas, interfering with boating and swimming and causing property values to decline.



Variable watermilfoil
VLMP Photo

Variable milfoil can take over shoreline areas previously inhabited by native plants and negatively impact important habitat. This is, of course, true for other Maine lakes that are infested with Variable watermilfoil.

Having no baseline data to work with, it is impossible to know how fast the plant is spreading in the lake and how many new colonies are forming each year. The Portland Water District began mapping milfoil sightings on the lake in 2000 and is currently working to organize a compre-

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Demystifying Milfoil continued from page 6...

hensive screening of the lake's shoreline. The VLMP "Invasive Plant Patrol" screening project will be implemented in phases over several years and will proceed as resources allow. Having this baseline data is essential to determining an appropriate action plan for Sebago Lake.

Sebago Lake is one of the most popular boating lakes in Maine and in New England. Given that boats are the primary ways these plants get from lake to lake, the invasive milfoil found in Sebago is a potential threat to every other lake in the region.

So, make no mistake – the three species of milfoil listed as "unwanted" in Maine lakes are aggressive and invasive. Every effort should be taken to keep them out of Maine lakes. But Hydrilla, another plant on the list, is considered to be capable of overtaking even the most troublesome milfoils.

A great slogan for this issue has been "Spread the Word, Not the Plant." We should make sure that the words we are "spreading" are clear and accurate. Perhaps it is time to come up with a new catchword. When speaking about this *issue* (and not about a specific plant) the term "invasive aquatic plants" works better than "milfoil" in almost all cases. It may not form a nice alliteration with the name of our state, and lend itself to such catchy headlines as "Milfoil Makes Mess of Maine Lakes!" but give it time. It may grow on you.

For more information on invasive plants please visit the following websites:

Portland Water District
www.pwd.org

Maine Volunteer Lake Monitoring Program
www.mainevolunteerlakemonitoring.org

Maine Department of
Environmental Protection
www.janus.state.me.us/dep/home.htm

Roberta Hill is an ecologist and the Environmental Education Coordinator for the Portland Water District.
(rhill@pwd.org)

Lakeside Notes continued from page 4...

It should come as no surprise then that there is a relationship between water clarity and lakeshore property values. The University of Maine and the DEP have found that clear lakes tend to support higher property values than similar lakes that are less clear. (Site reference). What is surprising, however, is that public awareness about storm-water runoff as a pollutant is extremely low. In fact, most people simply do not think of runoff as a pollutant, or as a mechanism for transporting pollutants to lakes and ponds.

Other significant and ongoing threats to Maine lakes include fish and wildlife habitat alteration or loss from riparian and upland watershed development, mercury contamination of fish tissue, and changes in the character of the "lake experience", as shoreline development and surface use increases. Each of these represents a potentially serious impairment to lake ecosystems, and to our enjoyment of the lake environment.

So, in our vigilance to protect Maine lakes and ponds from invasive aquatic plants and animals, let us not forget about those threats that are here, and the fact that each of us must always be looking at the total picture if we are to be responsible and effective stewards of our lake resources.

Scott Williams
Executive Director

Little Clemons Pond on a Cloudy Summer Day

5th Annual VLMP Meeting

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The VLMP held its Annual Meeting on Saturday, June 23 at the Maine Conservation School in Bryant Pond. The occasion marked the 30th anniversary of volunteer lake monitoring in Maine, and provided an opportunity to connect with old friends and to gain perspective on our accomplishments.



Attendees listen to a presenter at the Annual Meeting

Speakers included Matt Scott, former Director of the DEP Lakes Division and founder of the program, who shared his recollections of the beginnings of the VLMP. Also sharing the podium were Roy Bouchard of the Maine DEP Lakes Division, and VLMP Executive Director Scott Williams with noteworthy presentations that added much humor to the days events. Among the highlights of the meeting were anecdotes and reminiscences of many volunteer monitors who shared their heartfelt and humorous stories.

Several awards were presented, including Volunteer of the Year to Mary Hitchings. Mary was honored for her service as a volunteer monitor, regional coordinator, Secretary of the VLMP Board of Directors and hostess extraordinaire. Lifetime Achievement Awards were presented to Tom Hanula (29 years), Joe Emerson (28 years), Ed Mayer (27 years), Bob Susbury (26 years), Ralph Johnston and Charlie Turner (25 years). Linda Bacon and Roy Bouchard of the DEP were both honored with Leadership Awards for their invaluable counsel, guidance and assistance to the VLMP.



Scott Williams presents the "Volunteer of the Year" Award to Mary Hitchings

A highlight of the Annual Meeting this year was the VLMP's first Silent Auction and Raffle. More than twenty individuals and companies around the State donated items for the Auction and Raffle, and the VLMP cleared over \$2,000. Items ranged from scientific monitoring equipment to beautiful artwork. Thanks again to all who participated.



Linda Bacon and Roy Bouchard receive Leadership Awards

**Mark your calendar for
The 6th Annual VLMP Meeting
on Saturday June 15, 2002.
at the State YMCA Camp,
Winthrop, Maine**



Quality Counts!

Linda Bacon, Maine DEP Advisor

Advanced Volunteer Monitor Training Options

As indicated in previous issues of The Water Column, the VLMP offers several options for volunteer lake monitors to receive advanced training. The following is a brief description of each. Please contact the VLMP office if you are interested in additional information about any of them. Requirements to receive special training generally include a minimum of one season of active lake monitoring.

Baseline Water Quality Monitoring

Learn how to measure, document, and interpret important indicators of lake water quality, including dissolved oxygen concentrations, and total phosphorus and chlorophyll_a levels. These indicators can be used to supplement Secchi transparency data, providing a more complete picture of lake water quality. Annual certification is required for volunteers who receive baseline training. Also, at this time, the VLMP is not able to provide equipment for baseline sampling. Limited supplies of some types of equipment may be available on loan for priority lakes. Some of the sampling equipment required can be purchased for relatively low prices. Volunteers should also be aware that training, monitoring and re-certification for baseline sampling requires a significant time commitment.

Mentor Program

As the number of volunteer monitors in the VLMP increases, the need for qualified volunteer trainers also rises. The Mentor Program is intended to train interested individuals to assist with volunteer training and re-certification workshops. In



addition to receiving information on training, Mentors will be provided with basic information about lake monitoring methods, watershed land use and lake quality relationships, and how lake ecosystems function, so that they may be prepared to answer the questions most commonly asked by volunteers. Eligibility for the mentor program includes a minimum of three seasons of lake monitoring, attendance at a half-day training session, annual recertification, and apprenticeship at several volunteer training workshops.



Community Watershed Educator Program

Protecting lake water quality entails the application of conservation practices throughout the watershed. This process begins with raising public awareness and understanding about the relationship between watershed land use and water quality. Volunteer lake monitors can play an important role in raising community awareness through providing land owners, schools, conservation committees, and community planners

with information intended to facilitate the use of effective lake protection practices. Volunteer monitors who are interested in becoming a Community Watershed Educator should expect to attend an initial training workshop, and periodic updates.

Invasive Aquatic Plant Patrol Program

Learn how to distinguish invasive aquatic plants from beneficial native lake plants. Early detection is key to preventing aquatic invaders from becoming established in lakes and ponds. Volunteers who attend workshops will be trained to recognize target invasive species. Additional training will be provided on methods of conducting an invasive aquatic plant screening survey. Volunteers who attend the VLMP workshops will receive specific information necessary to undertake an effective survey. Plant Patrol workshops are offered throughout the summer at various locations throughout the state. No previous experience is required to attend a workshop.



W e l c o m e

New Volunteer Lake Monitors

Androscoggin County

Doug Burdo
Betty Wilkins

Round Pond, Livermore Falls
Moose Hill Pond, Livermore Falls
Bartlett Pond, Livermore

Aroostook County

Debbie Eustis-Grandy
Kelly McManemon

Hanson Brook Lake, Mapleton
Trafton Lake, Limestone

Cumberland County

Paul Dewildt
Bob Heyner
Peter Thoits

Bonny Eagle Lake, Standish
Forest Lake, Windham
Lily Pond, New Gloucester
Crystal (Dry) Lake, Gray

Franklin County

Roger & Joan Noyes
Adrienne Rollo
James Stewart
Rob Taylor
Michelle Young

Dodge Pond, Rangeley
Toothaker Pond, Phillips
Webb (Weld) Lake, Weld
Parker (Mirror) Pond, Jay
Rangeley Lake, Rangeley

Kennebec County

Charles Andrews
Rick Christianson
Joe Feely
Karen Fisk
April Gray
Ned Hammond
Gilliam Johnson
Roberta Manter
Judy Moody
Anthony & Mary Pileggi

East Pond, Smithfield
Messalonskee Lake, Belgrade
Messalonskee Lake, Belgrade
Nehumkeag Pond, Pittston
Salmon Pond, Belgrade
Messalonskee Lake, Belgrade
Messalonskee Lake, Belgrade
Hales Pond, Fayette
Webber Pond, Vassalboro
Threemile Pond, China

Knox County

Marshall Sonksen

Lermond Pond, Hope

Lincoln County

Dick Bredeau

Knickerbocker Pond, Boothbay
Adams Pond, Boothbay
Damariscotta Lake, Jefferson
Damariscotta Lake, Jefferson
Knickerbocker Pond, Boothbay
Adams Pond, Boothbay
Damariscotta Lake, Jefferson
Damariscotta Lake, Jefferson

Oxford County

Robert Fey
Tom Ray
Jeff Tripp

Pleasant Lake, Otisfield
Thompson Lake, Oxford
Abbotts Pond, Sumner
Cushman Pond, Sumner
Halls Pond, Paris

Lou Williams



Penobscot County

Bob Crawford
Lynne Lamstein
Erwin McNally
Don Roberts

Wassookeag Lake, Dexter
Plymouth Pond, Plymouth
Wassookeag Lake, Dexter
Cold Stream Pond, Enfield

Piscataquis County

Dean Meffe
Dave Raymond

Sebec Lake, Willimantic
Sebec Lake, Willimantic

Waldo County

Jasper Walsh

Cross Pond, Morrill

Washington County

Thomas Finlay
Jillian Glover
Tom Hansen
Edgar Johnson
Richard Young

Gardner Lake, East Machias
Great Pond, Great Pond
Beddington Lake, Beddington
Gardner Lake, East Machias
Gardner Lake, East Machias
Second Lake, Marion Twp

York County

Robert Lemelin

Granny Kent Pond, Shapleigh

Cobboosee Watershed District

Edward Dodge

Maranacook Lake, Winthrop

St. Croix Waterway

Jim Bala
Mike Thomas

Baskahegan Lake, Brookton Twp
Musquash Lake (east), Topsfield
Spednik Lake, Vanceboro



The VLMP staff would like to welcome all of the new volunteer lake monitors that joined the Program during the summer of 2001.

We look forward to meeting with you again soon!

Photos on Page 8

Top Right: Volunteers venture onto the lake to take Secchi Disk Transparency Readings for certification .
Bottom Left: New Volunteers glance over training materials.



New Volunteer Lake Monitors at a Training session held this summer on Long Lake in Belgrade.

Successful First Season of Invasive Plant Patrol Workshops

Nearly two hundred volunteers participated in VLMP Invasive Plant Patrol (IPP) Workshops last summer. Sessions were held at various locations throughout the state. The workshops trained volunteers to develop aquatic plant identification skills, and provided practical information about conducting invasive aquatic plant screening surveys.

According to feedback from the participants, the workshops were a great success! Most vol-

unteers who attended were confident that they could distinguish between an invasive plant such as Eurasian or Variable leaf Milfoil, and common native plants that are often confused with the invaders.

Many of the workshop attendees went on to use the knowledge they gained to conduct invasive aquatic plant surveys on their lakes. The VLMP is in the process of compiling the data that were gathered by the volunteers during the summer.

IPP workshops will be offered again next summer. Groups of volunteers who would like to sponsor a local workshop should contact the VLMP no later than next spring. Most of the sessions held in 2001 were packed. The maximum number of participants per workshop is twenty.



Volunteers try to identify a plant at the IPP Workshop held at Sennebec Lake



Volunteers at an IPP workshop in Turner work in teams during a hands on learning activity.



Volunteers at an IPP workshop in Turner look at various plant specimens

Invasive Aquatic Species Legislation Passed

In June, 2001, the Maine Legislature passed a law to strengthen Maine's efforts to prevent the introduction and spread of invasive aquatic species (IAS). The law will build upon legislation passed in 2000, which established important groundwork in defining target species, and which prohibits the transportation of invasive species in Maine.

The 2001 law requires owners of motorboats and personal watercraft that operate in Maine's rivers and lakes to purchase an invasive species prevention sticker. The sticker funds (\$10 for Maine registrations, and \$20 for out of state registrations) will be used to support the work of the Departments of Environmental Protection, Inland Fisheries and Wildlife, and others. Special funds were established by the Legislature to insure that the sticker revenues would be used specifically to protect Maine waters from the IAS threat.

In response to the new law, a great deal of work has been undertaken by the Maine DEP, VLMP, Lakes Environmental Association (LEA), and other agencies and organizations during the past few months. The work has involved extensive public education and outreach efforts, including the distribution of hundreds of thousands of brochures and flyers, paid TV public service announcements, the posting of warning signs at public boat landings and at Maine borders, and the training of over 200 volunteer VLMP "Plant Patrol" monitors.

The VLMP has played an important role in training volunteers to recognize invasive aquatic plants, and to conduct volunteer surveys for invasive species on their lakes. Several "Invasive Plant Patrol" workshops were conducted throughout the State during the

summer months. A field manual for the identification of IAP's is in the final stages of production. This publication will be available to all volunteer lake monitors and plant patrol workshop attendees in 2002. The VLMP staff received and identified dozens of plant specimens throughout the summer.

A pilot program tested several options for boat and trailer inspections at selected roadside and public boat ramps during the summer.

Figure 1 (Courtesy of the Maine DEP—Vicki Schmidt) shows the locations of inspection sites, posted road warning signs, and the documented locations of lakes that are known to be infested with Variable watermilfoil. Inspectors (professionals and volunteers) asked boaters to answer questions from a survey that was designed to assess the risk to Maine waters. For example, boaters were asked whether or not they had heard about the threat of IAS, and if so, how. The number of boats that were actually found to be carrying plant fragments was also documented through the survey.

The data from several thousand hours of inspection time are being analyzed at this time.

The DEP is developing a rapid response protocol for addressing new IAS infestations. Maine lakes and ponds that are already infested by Variable watermilfoil were evaluated throughout the summer by DEP and VLMP staff, by the Portland and Auburn Water Districts, and by staff and students from the University of Maine at Farmington.

The legislation authorizes the development of the "Interagency Task Force on Invasive Aquatic Plants

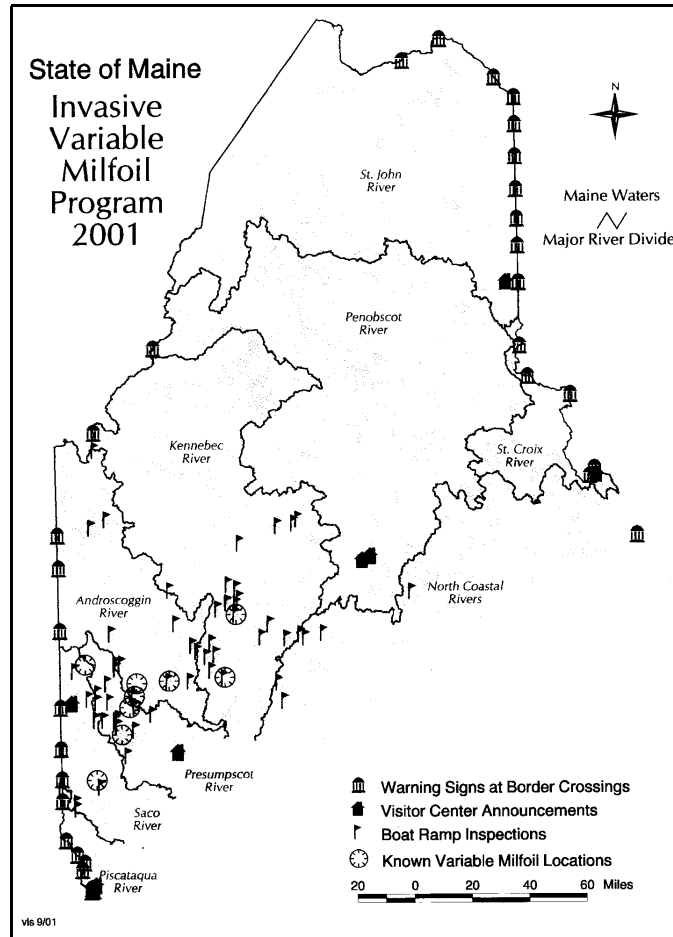


Figure 1

continued on page 11...

Invasive Aquatic Species Legislation Passed...continued from page 12

and Nuisance Species". The task force will advise the Land and Water Resources Council, which is composed of the Commissioners of Maine's Natural Resource Agencies and other appointees. The task force is charged with developing a comprehensive statewide plan for addressing IAS. The VLMP will be directly involved in the development of this plan.

Effective legislation is only part of the battle against aquatic invaders, and several challenges are already clear for 2002:

1. Will resources be available to help local organizations who want to pitch in and help?
2. Will volunteer efforts started in 2001 be sustained and have the potential to expand?
3. Will we be able to adequately educate boaters about the very simple but effective ways to stop the spread of invasive plants?
4. Will the interest in invasive plants overshadow the ongoing need to manage our watersheds and protect our shorelines from other threats to lakes?



*Copies of the new law are available through the VLMP. To view the law online, visit the following websites:
www.state.me.us/dep/blwq/topic/invlegis.htm or www.mainedep.com*

U N W A N T E D

11 Invasive Aquatic Plants that You Should Be Aware Of...

Maine law, it is illegal to transport **ANY** aquatic plant or parts of any aquatic plant on the outside of a vehicle, boat, personal watercraft, boat trailer or other equipment. It is also illegal to sell, cultivate, transport or distribute any invasive aquatic plants that could cause the plant to be introduced into a waterbody.

VLMP Welcomes AmeriCorps Service Volunteer

Amanda Blodgett



Beginning this fall, I am the newest member of the Maine Volunteer Lake Monitoring Program Staff. Because of this, it would be nice to let you know a little more about myself. I am from Mexico, Maine and graduated from New England College this past spring with a Bachelor of Arts Degree in Biology and Environmental Science.

Over the course of the next year, I will be doing service with both the VLMP and Maine Department of Environmental Protection. My service will include various projects such as outreach programs, setting up a public resource center at the VLMP, lake monitoring, and volunteer recruitment.

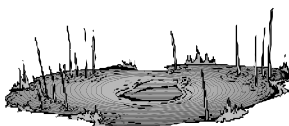
For the majority of my life I have had an interest in the environment and a desire to help protect it. Through these interests, I look forward to working with the public to deal with concerns involving lakes and watersheds. I also anticipate working with the many volunteers at the VLMP.



Lake Lingo

Almost any discussion of lake water quality includes the use of terminology that seems cryptic! Some have claimed that terms such as “thermocline” and “eutrophication” are intended to provide long-term job security for scientists and technocrats. In an effort to dispel that cynical assertion, we are initiating “Lake Lingo” with this issue of *The Water Column*. We will start simple and work our way up to more complex terms and concepts. Please let us know what you think about this feature of the newsletter.

LAKE: *A depression or basin in the landscape that allows water to collect, or pool, from precipitation, runoff, and groundwater.*



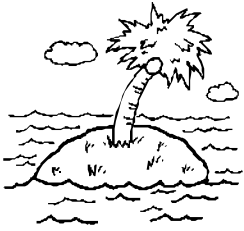
POND: *A shallow lake. Ponds are shallow enough to permit sunlight to penetrate to the bottom over the entire body of water, allowing plants to grow throughout the lake.*

Depth, as opposed to surface area, is a distinguishing characteristic between lakes and ponds. Many ponds have a surface area of several hundred acres or more, and some lakes are relatively small.

Now for some details: Depending on which feature or function is being discussed, there are many different types of lakes. However, two important factors that are generally accepted as defining characteristics are depth (lakes are relatively deep), and water retention. A primary feature that separates lacustrine (lake) from riverine (river) systems is the rate at which water passes, or flushes through. Lakes flush slowly, relative to rivers. Some lakes take several years to flush, while others flush several times each year. The distinction can be subtle between a deep, wide spot in a river and a lake. The slower the passage of water through the basin, the more the system will “act” like a lake. When a basin flushes more than a few dozen times each year, it probably functions more like a river than a lake.

Some of the confusion about what qualifies as a lake or pond is due to the fact that many Maine lakes have historically been referred to as ponds, and vice-versa. Common public use of the two terms has made them seem interchangeable. For example, Toddy Pond in the Town of Surry has a maximum depth of 122 feet, and an average depth of 27 feet. Taylor Pond in Auburn has a maximum depth of 49 feet, and an average depth of 17 feet. Based on the depth criterion, both are lakes, but neither is a pond. On the other hand, Saddleback Lake in the Rangeley area has a maximum depth of approximately 13 feet, so it meets our definition of a pond, as does Echo Lake in Presque Isle, which is only 9 feet deep with an average depth of 5 feet. It is probably safe to say that many more lakes are referred to as ponds than vice-versa

Note: *The distinction between a lake and pond varies somewhat, depending on how the term is being used, and who is crafting the definition.*



Wanted

Information Regarding Floating Islands

I am compiling a global bibliography on floating islands, and I would very much like to learn more about any floating islands that may exist in the lakes of Maine. I am particularly interested in floating islands about which something has been published (anything from a botanical survey down to a local newspaper article), but would also appreciate receiving notices about floating islands that have yet to be described in print. *Please contact me at:*

Chet Van Duzer
12177 Winton Way
Los Altos Hills, CA 94024-6431
fax (650) 948-9472
email chetv@aol.com

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/>
(Cobboossee Watershed District)

<http://www.mainecola.org>
(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)

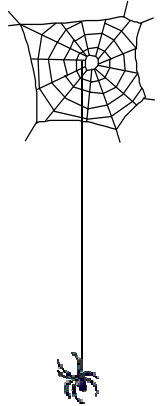
<http://www.ecy.wa.gov/programs/wq/plants/>
(Washington State information on freshwater plants)

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

<http://www.epa.gov/owow>
(Environmental Protection Agency Office of Wetland, Oceans and Watersheds)

<http://www.cleanup.org>
(Website for a cleaner environment including water quality and pollution)

<http://www.epa.gov/ceisweb1/ceishome/atlas/bioindicators>
(EPA site for Bioindicators of Watershed Health)



The **Water Column** is the newsletter of the Maine Volunteer Lake Monitoring Program, and is published quarterly. Please address questions or comments to:

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

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