# the Water Column

A Publication of Maine Volunteer Lake Monitoring Program

Vol. 10, No. 2 | Provided free of charge to our monitors and affiliates | Fall 2005

## Inside

Maine's Future Plant Patrollers • Page 4

Getting to Know the Natives • Page 6

New Water Quality Monitors • Page 13

*Photo by Don Cameron, Maine Natural Areas Program*

# What's Inside


Quality Counts! . . . . . 3
Future Plant Patrollers . . . . . 4
Littorally Speaking . . . . . 6
CBI, On the Front Lines . . . . . 8
Annual Meeting Awards . . . . . 10
2005 New Volunteer Monitors . . 13
MCIAP Herbarium Grows . . . . . 16
News from the Brackett Center . . 17
Graphing Secchi Data . . . . . 18
Thank You VLMP Supporters . . . 19





**To Contact Us:**
24 Maple Hill Road
Auburn, Maine 04210
207-783-7733
vlmp@mainevlmp.org
www.MaineVolunteerLakeMonitors.org



**Editorial Staff**
Scott Williams
Roberta Hill
Richard Jennings
Jim Entwood, Layout

**Funding for this newsletter is made possible by grants from the US Environmental Protection Agency and the Maine Department of Environmental Protection, through Section 319 of the Clean Water Act.**

**Printed on Recycled Paper by:**
**Curry Printing & Graphics - Auburn, Maine**


# Lakeside Notes

By Scott Williams
*Executive Director*

Scott Williams
*Executive Director*

Last weekend, on a warm, sunny day that felt more like August than early October, I ran into Rebecca Kurtz in Rangeley. During our conversation she mentioned that during a storm the previous week wind gusts of nearly 100 mph had been documented in the area. A short time later Tom McAllister told me on the same wild day he watched the wind blow the tops of the whitecaps off the waves on Saddleback Lake, also in the Rangeley area. That same afternoon I took a Secchi disk reading on Saddleback Lake measuring just over 2 meters - a low reading for the lake. The water was distinctly brown and turbid, no great surprise, in light of the effect that the recent storm probably had on the relatively shallow lake.

You may recall that day in early October, because high wind warnings were posted throughout much of the state. Most volunteer lake monitors had likely put away their disks and scopes for the season, although with the extended summer-like weather that Maine has experienced during the past few years, some volunteers have continued to take readings into the fall months.

My experience in Rangeley underscores the potential value of weather observations when recording lake data. Just as it is important to note whether the sun is shining brightly, or is hidden behind the clouds when you take a Secchi disk reading, it may be of equal value to note any current or recent unusual weather on your data form, such as strong winds, heavy rain, or extended dry periods. This information can be helpful when we interpret the data at the end of the season, whether it be for water quality monitoring, or surveying for invasive aquatic plants.

Local weather conditions can vary considerably throughout Maine, as anyone who has listened to severe thunderstorm warnings for an adjacent county, while sitting in their boat on a calm day, can attest. Significant variations in local weather may therefore not be officially documented and available. Without such information from local observers, there may not be a historical record. Without a record, we might overlook the effects of extreme weather on indicators of lake quality!

## Lakeside Notes Continued

As credible evidence of the phenomenon of global warming continues to grow, we should be thinking about how this process could influence Maine lakes. Of course, this is easier said than done, given the fact that, for starters, the influence of global warming on lakes will depend on which (if any) climate change models are correct. A number of the models suggest that lakes in the temperate zone will be warmer during the next century - a simple prediction that could have profound implications for aquatic ecosystems. The model also predicts drier summers, perhaps similar to what we have experienced throughout much of Maine during four of the past five years. Regardless of what takes place, the data gathered by volunteer lake monitors will, as always, be invaluable. Without your data, all of this would continue to be speculative!

The influence of the weather on lakes, whether from an intense localized afternoon summer storm, or long-term global temperature changes, is undeniable. We're exploring options that would enable volunteers to record and post local weather observations on a website. If this sounds like something that you would be interested in, please let us know.

As the 2005 lake monitoring season winds to a close, please accept our thanks for the valuable effort that you have put into gathering lake data for another year. We know that for most of you, the process is a labor of love, with well-deserved pride for the important stewardship that goes with it.

# Quality Counts!

By Linda Bacon
DEP Biologist and Technical
Advisor to the VLMP

Another season passing! Just a few reminders to the dedicated stewards of Maine's liquid landscape gems…

Linda Bacon
Biologist, Maine DEP and
VLMP Technical Advisor

Remember to clean and store your disks and scopes in a dry place for the winter. Some of the metal parts are prone to rust when stored in a persistently damp location.

It is a good time to inspect the first six to twelve inches of the tape attached to your disk. Some of the older tapes are beginning to show signs of stress, including tears. Since most of you rarely encounter transparencies less than 0.5 of a meter, reinforcing a weakened area with duct tape will prolong the usefulness of the device.

It is also a good time to clean out the inside of your scope and then cover the open end with a plastic bag and elastic. This has the added benefit of eliminating one cozy hiding space for spiders too!

And those of you with battery powered monitoring equipment should remove this season's batteries before storing such devices. Batteries occasionally leak and the acid can severely damage sensitive electronics. If you happen to discover moisture inside an electronic device, leave it open in a dry location for a few days to allow the inside to thoroughly dry. If you are winterizing a dissolved oxygen meter, refer to the instructions provided for proper procedures. Leaving the potassium chloride solution in the probe will cause premature deterioration of the anode. It may not cause problems the first year, but it will shorten the life of a probe by a few years if stored improperly year after year. For example, one should expect to get about 8 years out of a properly cared for probe. A probe that is stored for 6-month periods between sampling seasons with solution inside may only last 5-6 years. The anode will get smaller and oxidized over time and eventually give bad readings.

And a BIG THANK-YOU goes out to the volunteers who were willing to obtain surface baseline samples and send them into the lab last summer. You saved the state at least 16 staff days, more than $3000! We missed the fun of getting out on your lakes for sure, but other than that, the result was a win-win for the lakes and the state coffers.

### Freshen Up!

If your Secchi disk does not clean up nice and bright, contact the VLMP office. We will mail you a stick-on black and white cover.

# Maine's Future Plant Patrollers

By Pixie Williams, Volunteer Invasive Plant Patroller for Casco/Otisfield region lakes

## All the factors were now in place. . .

The Otisfield Elementary School, located within walking distance of Pleasant Lake, received a wonderful gift for its students: a fleet of twenty-four kayaks! Barbara Dunham, the school's Physical Education Director, and Recreation Director for the Town of Otisfield, is an expert kayaker. Barbara now introduces Otisfield's youth (in their fifth-grade year) to the wonders of zipping around on Pleasant Lake, fueled by nothing but their own energies and enthusiasm. In the sixth grade, students delve even deeper into their connection to their neighborhood lake, as their teacher Ruth Wilson leads them through a unit of fresh water ecology. (Ruth is also the VLMP water quality monitor for nearby Saturday Pond.)

Could conditions be any more perfect for establishing a Plant Patrol program for Otisfield youth — a summer program for recently graduated sixth-graders, where they could paddle out onto their local lakes and learn first hand about aquatic plants? Prompted and encouraged by one of Otisfield's most prominent lake protection advocates, and the Director of the Pleasant Lake and Parker Pond Association, Joel Bloom, our student "Plant Patrollers" team was formed with Barb Dunham overseeing safety as Recreation Director; Ruth Wilson, Fred Cummings and myself, Pixie Williams, providing the instruction.

We decided on a modest beginning, a trial class of eight students and we would meet the first three Mondays in August. The first Monday we were rained out. The second Monday we met at the southern end of Pleasant Lake, paddled over to a marshy spot loaded with native aquatic plants, and there, each student collected eight different species. Then it was back across the Lake to Lew Wetzel's spacious lawn, (Lew is yet another active VLMP volunteer), where we spread out, identified and pressed all our specimens in newspaper. We even experimented with wet mounts. This involves floating a delicate specimen such as a bladderwort onto a plain piece of paper under the water, and then gingerly bringing the entire arrangement to the surface to drain, while maintaining an optimum arrangement (a bit of a trick). The first time we tried doing this directly in the lake, but the current moving toward the outlet proved daunting. Unless you were quick, your specimen literally "floated down the creek." Next time, we used a dishpan. Then all the student specimens were loaded into a professional plant press to dry over the coming week..


The Otisfield Youth Plant Patrol set out this summer to survey Pleasant Lake and Saturday Pond for aquatic plants.

The second and final session took place at Ruth Wilson's home on Saturday Pond. Here we again went out in the kayaks, collected another eight different species and then went back to Ruth's place where we repeated last week's procedure. In addition, this time, the previous week's dried specimens were returned to each student and they proceeded to mount them on plain white paper, the correct size so the sheets would fit into a loose-leaf notebook.

It was exciting to see how quickly the young people learned. When asked to take out their specimen of little floating heart, each student did it without hesitation. This was true for the rest of the plants.

# Future Plant Patrollers Continued

They put us adults to shame. At the end of the process, each student went home with a loose-leaf folder of approximately sixteen dried plants, all nicely identified.

The student evaluations were glorious! *"I thought it was really fun!" "Loved collecting those gross plants!" "Loved the kayaking." "If we missed one day we should have made it up!"* What could have made the course better? *"A magical weatherman who can make it sunny!"*

As is often the case when you begin to teach others what you know, you discover so many things you never knew before. For example, did you know that the gelatinous substance which coats the underside of watershield leaves makes an A-1 glue? (I learned this the hard way, working away for hours with my mat-knife to carefully release pressed watershield leaves from the newspapers to which they had adhered.) Next year, the students will position the watershield right onto the mounting paper. And I just may just decide to market my new discovery . . . "Pixie's Tough-Shield Glue — the best natural herbarium glue money can buy!"


Pixie Williams demonstrates how to press and preserve aquatic plants as part of the Otisfield Youth Plant Patrol Program. The plants were collected by the students during a survey of Pleasant Lake.

# Welcome New VLMP Board Members

Philomena McPhee-Brown is a volunteer water quality monitor and Invasive Plant Patroller on Little Wilson Pond. A professor of Education at Thomas College, she has served on the Kennebec Humane Society Board of Directors.

Mark Fuller, owner of The Groundskeeper, a landscaping company, volunteers his expertise at the Brackett Environmental Center.

Kirsten Ness is a volunteer water quality monitor and recent graduate from the University of Maine with a Masters in Environmental Science. She is a Teaching Assistant in the Biology Department at Colby College.

Tamara Lee Pinard is the Watershed Program Coordinator at the Cumerberland County Soil and Water Conservation District where she has coordinated many lake and watershed protection and restoration projects in recent years.

# Littorally Speaking

## Getting to know the Natives

Spatterdock (*Nuphar variegata* )

Roberta Hill, Program Director, *Maine Center for Invasive Aquatic Plants*

The last few Littorally Speaking columns have focused almost exclusively on invasive plants. It is high time we return to extolling the virtues of Maine's humble, yet wondrous and vitally important native aquatic plants. (To be specific here, we are talking about *macrophytes*: the vascular plants large enough to see with the unaided eye; either free-floating or rooted.) These are the plants that found their way into Maine waters as the glaciers receded and the conditions became more habitable. Most, having long since descended from their terrestrial ancestors, and now well-adapted to aquatic life, were perfectly poised to be among the earliest "settlers" of Maine's newly formed lakes and ponds. In the process of pioneering the flooded wastelands, aquatic plants, in turn, set about enhancing the conditions of life for others.

Photo by Don Cameron

Native aquatic plant community

Aquatic macrophytes are, for example, key players in lake carbon and oxygen cycles in aquatic systems. Like their land dwelling counterparts, aquatic plants take in respired carbon dioxide and return life-sustaining oxygen to the system during the process of photosynthesis. Though much oxygen is brought into lake ecosystems by the mixing caused by wind and waves at the surface, dissolved oxygen supplies may become depleted in the quieter, warmer coves and abayments—the very places where plants are inclined to settle. Aquatic plants help to replenish vitally needed oxygen supplies in these areas, providing life-support for the myriad critters that inhabit the lake's "fertile fringe."

Obtaining the high concentrations of $CO_2$ needed to drive photosynthesis, however, poses challenges for aquatic plants. Though $CO_2$ dissolves readily, it diffuses relatively slowly through the water (about 10,000 times slower than it diffuses through the air). Where plant growth is dense, local supplies of $CO_2$ may begin to wane. The problem is compounded by a layer of still or "unstirred" water that surrounds the leaves of aquatic plants, creating somewhat of a barrier to gas exchange.

Aquatic plants have adapted to the $CO_2$ challenge in a number of ways. Many have very thin, wavy or finely-divided leaves, able to move with ease on subtle currents and to disrupt the unstirred layer. Some produce a second set of leaves at the surface, and use the connecting stem as a snorkel to take in a plentiful supply of $CO_2$ from the atmosphere. Others (such as the diminutive bottom dwellers, the quillworts) are able to take in $CO_2$ form the bottom sediments through their roots. Another strategy adopted by some species involves utilizing carbon from other sources, such as bicarbonate. Most aquatic plants have air spaces (called *aerenchyma*) in the cellular structure of their roots, stems, and leaves, allowing them to store $CO_2$ from their own respiration (yes, at night plants breathe in oxygen and give of $CO_2$ just like we do) and to move it later on to locations where photosynthesis occurs.

Photosynthesis not only produces much needed oxygen--it creates food. Along with their mini-counterparts, the planktonic algae, macrophytes are considered major producers in the aquatic ecosystem, extracting from their habitat the various "raw materials" required for food production: sunlight, water, atmospheric gases, and nutrients, and offering up in return a truly bountiful and varied food supply for the local inhabitants. Aquatic plants are a critical food source for everyone from grazing insects, to waterfowl, to moose, to humans.

When it comes to nutrient uptake, plants once again show off their versatility. Most aquatic macrophytes take up nutrients from the bottom sediments through roots and rhizomes. Some, such as the coontails and duckweeds, have no roots; these plants derive their suste-

nance directly from the water column. The bladderworts (there are nine native species in Maine) are particularly ingenious, supplementing their diet by capturing and devouring tiny prey in their lopsided balloon-like traps.

Aquatic plants help to protect water quality in lakes and ponds by stabilizing shorelines and bottom sediments. Extensive root systems hold sediments in place. Stems and leaves greatly reduce the erosional forces of wind and wave action. Put this stabilizing role together with the role plants play in capturing, storing, utilizing and distributing nutrients and you can see what an important ally plants are in our effort to keep excess nutrients out of circulation in the water column. Remove the macrophytes from a productive lake ecosystem, and you will almost certainly see an abrupt decline in water clarity as a result of re-suspended sediments, and increased algal growth.

Not surprisingly if you have ever dropped anything of value overboard while drifting around in the shallows where the native plants grow thick and tall aquatic plant beds make for good hiding. Many creatures shelter their eggs and/or young in among the roots, stems, leaves and shade of aquatic plants, making nurseries of the plant beds. Some species stay in the plant beds for good, never getting the urge to wander far from such their exquisite refuge among the leaves.

Protecting water quality, providing life-sustaining oxygen, high quality cover and a veritable cornucopia of food, aquatic plants are vital not only to wildlife, but to all those who love and enjoy Maine's beautiful lakes and ponds. For these reasons and many others, Maine's native aquatic plants are worthy of our greatest respect, and warrant all we can do to protect them.

# 2005 Invasive Plant Patrol Program in Review

The primary goals of MCIAP's Invasive Plant Patrol (IPP) Workshops are to teach the people of Maine about the threat of invasive species, to familiarize them with the eleven invasive aquatic plants on Maine's "watch list," and to introduce the basics of conducting an invasive aquatic plant screening survey. Over 275 people attended IPP workshops in 2005, bringing the number of participants in the training program since its inception in 2002, to over 1,500. Workshop offerings have expanded to provide advanced training in plant identification, and field experience in conducting screening surveys and managing invasive plant infestations. An IPP certification program has been established to standardize the screening survey process and to facilitate data collection. Forty-nine certified plant patrollers were added to the team this year--we are now 180 strong and growing. Data have been pouring in, and more is expected before the deadline November 1. The happy news! There were no new waterbodies added to the list of "Infested Maine Waters" so far this year (a first since the program got its start in 2002) and many more lakes and ponds have been added to the list of "screened waterbodies."

Don Cameron (right) leads volunteer Plant Patrollers in an exercise identifying native plants at one of MCIAP's Advanced Plant ID workshops. Don is a botanist with the Maine Natural Areas Program.

One of the most exiting developments of the program for me has been to watch the expanding interest in, and awareness of, Maine's native aquatic plant communities among workshop attendees. When plant patrollers venture out onto their favorite puddle in search of evil invaders, more often than not, all they find are the peace-abiding locals-a thriving, diverse assemblage of the native aquatic flora. Though the IPP workshops were primarily designed to train people to recognize a suspicious plant when they see it; a secondary goal is to help those who are interested to become familiar with the friendly natives. The better acquainted you become with "everyone who belongs" in your lake; the more likely you are to notice the "suspicious stranger" if and when it should appear. And the more you learn about the many key roles that native plants play in the aquatic ecosystem, the more fully you will understand the enormity of the threat posed by their non-native run-amok cousins.

Volunteers identify plants collected during an IPP Field workshop on Little Ossippee Lake.

# More Good News from the Front Lines

By Roberta Hill, Program Director
*Maine Center for Invasive Aquatic Plants*

Local efforts to prevent the spread of invasive aquatic plants continue to pay off.

Last year, as you recall, three would-be invaders were snagged from out-of-State boats as they prepared to launch into Maine waters. (Please see "Three Strikes: They're Out, Fall 2004 *Water Column*.) This year, the story of disaster narrowly averted continues . . . the heroes, as before: Maine's growing cadre of Courtesy Boat Inspectors.

The story of the snag at Unity Pond is exemplary of this year's saves . . .

It was to be a big day on Unity Pond. The Waldo County Bass Masters would be converging at the Kanololus landing on Sunday morning for their Father's Day Tournament. Harry Waters, the Courtesy Boat Inspector and boat launch/swimming beach attendant at the landing, and Dr. David Potter, professor of ecology at Unity College, teamed up to provide the necessary coverage. Harry would organize parking, collect launch site fees, and respond to any questions from fishers while Dave would jump in to cover Harry's normal duties as Courtesy Boat Inspector.

Dave arrived at the boat landing at 4:30 AM. He conducted his usual lake shore inventory of water level, air and water temperature, human and wildlife activity and then awaited the first boaters of the day. That first boat arrived at 4:55 AM and it was not long before the landing area was teeming with vehicles towing slick- hulled boats and a host of eager anglers. Dave quickly understood the challenge: to inspect each rig with as great a speed as care would allow, while keeping things moving at all times. It proceeded like clockwork. The line of boaters moved efficiently from the line-up and inspection, to launching and parking. At about 6:15 AM Dave was inspecting the last boat.

According to Dave, "I asked each driver, 'May I conduct an inspection of your boat for invasive plants?' or some similar statement. Everyone agreed to inspection. Some commented on the low probability that I might find any plants of any sort. Most conducted their own tasks while ignoring my inspection. Only two of the forty fishers gave any hint of resistance to my efforts. The bass boats, in general, were very clean."

Given the early hour, the spic-and-span nature of the polished rigs and the pressure to keep things moving along swiftly, another inspector might have been tempted to relax his vigilance somewhat. Maine is very fortunate that Dave was not so inclined.

A careful observer by training and nature, Dave noticed during his inspection of the third boat of the morning that bits of debris were caught in the carpet-like fabric on the slider bunks supporting the hull of the boat. After that, he began to crawl on his hands and knees around and under every rig. On one such foray his well-trained eye found its mark. Stuck in the under side of one bunk was the spiny fruit of water chestnut, a notorious floating leaved plant that infests waters of New Hampshire, Massachusetts, Connecticut, and Vermont, but not yet known to occur in Maine. Dave confiscated the water chestnut fruit, and showed it to the boat owner. Locating no other evidence of invasive plants, he allowed the boat to launch. Then, just to make sure there nothing had been hiding between the boat and the sliders, he inspected the trailer once again.

Not one to pass up a "teachable moment," Dave made an announcement of the snag to tournament entrants. "The fruit was viewed by most of the boaters and was handled and passed around by so many hands that the spiny tips of the four sharp claw-like projections on the fruit were completely worn away. If there were any remaining skeptics in the group, it is likely that even they walked away with a new appreciation for courtesy boat inspections, and would have to acknowledge that the statewide invasive plant patrol program and the boat sticker program serve a very valuable purpose indeed."

And in the eyes of those who love Unity Pond, it was surely Dave who had made the "catch of the day."

# Front Lines continued

Dr. David Potter, volunteer Plant Patroller and Courtesy Boat Inspector, pulled an invasive water chestnut fruit off the trailer of a boat about to enter Unity Pond. This year CBI's also intercepted invasive plants that were heading into Sebago Lake and Rangeley Lake.

Two more instances of invasive plants being removed from out-of-state boats have been recorded this past summer. Each story offers a bit more insight into the nature of the threat, and those who are on the front lines fighting it:

- In late July, a fragment of Eurasian water-milfoil was removed from a boat entering Sebago Lake at the Raymond Beach boat launch, by CBI and Raymond Waterways Protective Association Lakes Protection Ranger, Christina Perry. The fragment was found stuck between the boat and the carpeted trailer slide, about midway between the bow and the steering wheel. The boat was from New Jersey, and the boater a B.A.S.S. member, who apparently had visited numerous lakes across New England, criss-crossing state borders in pursuit of his sport. The last waterbody visited (one week before coming to Sebago) was Candlewood Lake in Connecticut, a lake well known to be infested with Eurasian water-milfoil. The boater, very supportive of Maine's efforts and the Courtesy Boat Inspection program, had inspected his gear shortly before it was re-inspected by Christine. He had not noticed the menacing hitchhiker.

- In August, Bill Hart was on duty as a Courtesy Boat Inspector at the Town Dock on Rangeley Lake. A boat and trailer entered the dock from Massachusetts. The boat had a milfoil sticker on it. Bill was informed that it was last launched in Lake Shirley in Massachusetts. According to Bill, "The boater was very supportive of the milfoil sticker and the effort to keep milfoil out of Maine lakes." The boater assured Bill that he had cleaned his boat and trailer with a hose before traveling to Rangeley Lake.

  As Bill inspected the boat and trailer, he spotted a plant fragment hanging from the trailer. When Bill held the plant up for the visitor to see, he was told that the plant was nothing to worry about, probably just a "grass cutting." Suspecting otherwise, Bill bagged up the specimen for later examination, and proceeded with his inspection. Not finding any additional plant fragments, the boat was allowed to launch. But that was not the end of it. After the boat left the dock, Bill returned to the trailer for one last inspection. He noticed a small bit of green poking out of one of the holes on the underside of the steel trailer. Using care and persistence, Bill gingerly extracted the rig's well-concealed cargo: a healthy-looking stem fragment, about fourteen inches long. Suspecting milfoil, Bill added the fragment to the specimen bag. Bill's suspicions were confirmed later that day by MCIAP. The Massachusetts "grass clippings" were indeed Eurasian water-milfoil.

For more information on Maine's Courtesy Boat Inspection Program, please contact Lakes Environmental Association (207-647-8580 ~ lakes@megalink.net) or Maine Congress of Lakes Association (toll free, 877-254-2511 ~ info@mainecola.org)

# ANNUAL MEETING VOLUNTEER AWARDS

Photo by Lew Wetzel

Volunteers receiving awards for 5, 10, 15, 20, 25, and 30 years of service .

Photo by Lew Wetzel

Lake Stewardship Award
Phoebe Hardesty

We are very pleased to present the first **VLMP Lake Stewardship Award** to Phoebe Hardesty. Phoebe has been involved in lake and watershed education and protection for many years through her work at the Androscoggin County Soil and Water Conservation District where she has coordinated numerous lake watershed surveys and watershed restoration projects. The breadth of her experience and knowledge of water quality conservation practices is truly impressive.

Phoebe has shared her wisdom and experiences with scores of others who work to protect Maine's lakes, including Youth Conservation Corps students, town road crews, local conservation commissions, farmers, loggers, shorefront property owners and many others. Her level of commitment to protecting water quality and her seemingly unlimited energy has provided inspiration to many of us over the years.


Photo by Richard Jennings

Volunteer of the Year
Richard Offinger (left)

Richard Offinger, the 2005 **VLMP Volunteer of the Year**, has made a contribution to this program that is both unique and has been sustained for nearly three decades. For 29 years Richard has been monitoring the quality of Cathance Lake in Washington County. He has played a very important role in the administration of the VLMP as the Data Coordinator for Piscataquis County.

Richard developed the computer data entry program that is used by the VLMP and all of the volunteer data coordinators throughout Maine. He upgrades the program annually, based on feedback that he receives from VLMP and DEP staff and from his fellow data coordinators. This valuable product that is essential to our ability to manage a large volume of volunteer data has saved the VLMP countless thousands of dollars, and it has enhanced the efforts of many of our volunteers and staff.

Lifetime Achievement
Award
Tom Hannula

If the Maine VLMP is, in fact, the longest standing citizen lake monitoring program in the United States, which we have reason to believe it is, then Tom Hannula, this years recipient of the **VLMP Lifetime Achievement Award**, was the first official volunteer lake monitor in the U.S. when he began monitoring Sebasticook Lake in Newport 34 years ago!

Thirty-four years of continuously gathering volunteer lake data is a major achievement unto itself, but Tom has almost single-handedly championed the restoration of Sebasticook Lake during that time. He developed a sophisticated scientific model to explain the phosphorus cycling dynamics of the lake so that a long-term restoration and management plan could be developed and implemented. He worked with DEP staff to put the restoration plan in motion, and then he began a lifelong effort to inform and educate his watershed community about the importance of watershed protection. He has been tireless in these efforts, and he has been very patient, recognizing that lake restoration is often a slow and uncertain process, at best.

# ANNUAL MEETING VOLUNTEER AWARDS

Photo by Lew Wetzel

Richard Jennings (left)
Woodbury Brackett Environmental Center Service Award

After helping us move the VLMP office into the the Woodbury Brackett Environmental Center two years ago, Richard has returned every week, volunteering his skills and enthusiasm to a wide range of projects. Richard does pretty much everything from feeding the birds, to keeping the house in order, to helping staff with projects. He is an exacting editor of our newsletters and Annual Report and a gifted writer, contributing his poetry to the *Water Column*.

Richard's efforts have benefited the VLMP water quality and invasive plant programs through his exceptional, detailed work, and broad experience. His time has also made possible many new initiatives and special events at the Brackett Center. We are very grateful for the work Richard continues to give to the program, and present him with the 2005 **Woodbury Brackett Environmental Center Service Award**.

Jay Woolsey
Invasive Plant Patroller of the Year Award

The recipient of this year's **Plant Patroller of the Year** award has been a Water Quality monitor for South Pond in Greenwood for several years. His story is wonderfully typical of his ilk. Understanding that South Pond was among the top 10% of the clearest lakes or ponds in the State, and learning at a Regional Lake Association meeting that it was not being monitored for water quality, he decided to volunteer, in his words, "to help keep it that way." And his impulse to protect the place where he makes his home goes well beyond water quality monitoring. He has become an active steward of South Pond and the connected Round Pond, maintaining vigilance against other threats, including invasive aquatic species.

In 2004, our recipient's first as a Certified IPP, he single-handedly conducted a Level 3 (complete) IAP screening survey of the littoral areas of South and Round Ponds in Greenwood, and frequent Level 1 surveys of the area around the boat launch at the south end of South Pond and the southernmost cove of the pond, the area to which any fragments introduced at the launch would be likely to drift. He completed his data sheets carefully and legibly, attaching a useful map of the surveyed areas, and provided a number of thoughtful suggestions for improving the usability of the data forms. He sent his data in to MCIAP promptly at the end of the season. In addition to the survey work, Jay also dons his wetsuit whenever he gets the chance , to assist with the milfoil control efforts on nearby Lake Christopher and Shagg Pond.

The passion that motivates Jay to action, his commitment to preserving something which he sees not only as beautiful, but "fragile," his careful attention to quality work, his sense of calling to, and belonging in, a larger collaborative effort, epitomizes the very best of what we do at MCIAP. It is our delight to present the 2005 Award for Plant Patroller of the Year to Jay Woolsey.

Liz Petterson received the Invasive Aquatic Plant Prevention Action Award on behalf of the Hancock County Aquatic Invasive Plant Working Group

The 2005 **Invasive Aquatic Plant Prevention Action Award** goes to a group of concerned citizens in Hancock County—lake residents, lake associations, and representatives from local natural resource agencies (including Hancock County Soil and Water Conservation District, Acadia National Park, University of Maine Cooperative Extension, & the Union River Watershed Coalition)—that formed in the fall of 2002, calling themselves the Hancock County Aquatic Invasive Plant Working Group. The group meets several times a year to discuss methods of increasing prevention, education, rapid response and early detection programs throughout Hancock County. In the fall of 2003, the group decided that one thing that was greatly needed was county-wide survey of the county's major public boat launch areas.

By 2004, 55 Hancock County volunteers had participated in IPP training. Coordinated by the Hancock County Soil & Water Conservation District and in cooperation with the Maine DEP and Maine VLMP, the Hancock County Lake Survey Week for Aquatic Invasive Plants was held July 18-24, 2005, and targeted 90+ public boat launch areas across Hancock County, creating an exemplary model for regional IAP planning and action across the state.

# Record Attendance Set at VLMP Annual Meeting

Volunteer water quality monitors, invasive plant patrollers, VLMP staff, partner organizations, State staff and friends of Maine lakes gathered for the VLMP Annual Meeting July 30 at Central Maine Community College in Auburn. Thanks to all those who attended and special thanks to our excellent presenters. The event was well reviewed, with a record attendance of over 100.

Fabulous lunch catered by Nezinscot Farm

We are grateful to those who helped behind the scenes to make the meeting so successful: Amanda Brown, Ryan Burton, Laurie Callahan, Poppy Connor-Crouch, Michelle DeBlois, Mary Jane Dillingham, Aubrie Gridley, Richard Jennings, Mimy Ikirezi, Gerry and Meg Nelson, Elizabeth Payne, Judy Potvin, Lew Wetzel.

Silent Auction

# Lake Lingo

By Scott Williams

## Lake Foam

Everyone has seen it at one time or another; and it seems like nearly everyone has questions about this whitish-brown, frothy stuff that occasionally appears along the shoreline of most lakes and ponds (not to mention rivers and streams). Commonly referred to as "lake foam", this substance is, almost always, a simple, natural byproduct of the decomposition of algae, zooplankton and other aquatic organisms.

Through the process of decomposition, natural organic compounds that have the capacity to reduce the surface tension of water molecules are released into the water. This results in the formation of foam, as air is mixed in. Natural wind and wave action stirs in more air, and *voila*: lake foam! This substance can easily accumulate several inches deep, or more, along downwind shoreline areas following periods of breezy weather.

Lake foam is unlikely to be from soaps and detergents, but it *is* possible. If there is a question about the source, check around the immediate area for a possible discharge point - a pipe, or channel running across the land that shows evidence of foam. It is not unusual to see foam accumulations in the outlet pools of road culverts, once again, from natural sources, because foam-producing organic substances can also leach from the soil.

If the foam covers a large area, or is found in numerous locations along the shoreline, it is even more likely that the source is natural. Maine DEP Biologist Dave Courtemanche determined that it would take nearly 100,000 pounds of detergent to suds-up a shallow, 100 acre lake! One very simple way to distinguish natural lake foam from the detergent-based stuff is by performing the "sniff test". Natural foam generally smells earthy, or fishy, whereas suds from soaps and detergents are nearly always heavily perfumed.

# 2005 Water Quality Monitor Training

## New Volunteers Step up to the Challenge of Monitoring Maine's Lakes and Ponds

When the VLMP became a free-standing organization a decade ago, the organizers and staff set an ambitious goal for the program to expand at the rate of 10% each year (a goal that has been exceeded every year to date.) The motivation was simple: even with hundreds of Maine lakes and ponds being monitored annually by volunteers, there were thousands that were not; and many had never been assessed. Some were situated in remote areas, and others were relatively small.

A group of new water quality monitors pose for a picture at the Brackett Environmental Center before heading out on Lake Auburn to become certified. For a complete listing of new certified monitors see page 14.

However, shoreline property development pressure on Maine lakes is strong, and there is no indication that it will let-up any time soon. The VLMP team recognized the growing public hunger for developable shorefront, as well as an increase in demand for access to the water. In southern Maine, many bodies of water may have reached maximum development potential - at least in terms of available waterfront land. Areas that were passed over for development two decades ago are now being snapped-up as quickly as they become listed, and at prices that suggest that the public recognizes lakeshore property is a finite and disappearing resource! The development of multiple tier (back lot) property is also becoming routine, especially where access to common shoreline lots is available to buyers.

Limited property availability and dramatic increases in the cost of shorefront land have forced development pressure to spread to areas that might have been considered remote and inaccessible only a decade ago. A single moderate-sized subdivision, constructed on the shoreline of a small, undeveloped lake can quickly alter the character, and potentially, the water quality of the waterbody forever.

The availability of current, credible water quality data is essential to our understanding of, and ultimately the protection of, Maine lakes. VLMP volunteer monitors play a critically important role in the process of gathering cost-effective information in this process. Their efforts, combined with the knowledge and guidance of skilled lake experts at the Maine Department of Environmental Protection, have without doubt, helped maintain the high quality of our lakes and ponds during the past several decades.

We are delighted to welcome the 2005 new volunteer lake monitors to one of the nation's longest-standing, most respected, and largest citizen lake monitoring programs. Their interest, concern and commitment are the common ground that they share with several hundred veteran volunteers. The VLMP is pleased to play a role in bringing together new, enthusiastic volunteers with those who have extensive experience and history with the program. Our vision is simple: a growing force of skilled, dedicated individuals, working to protect Maine lakes.

# New Certified Water Quality Monitors

Mare than 50 new volunteers were certified by the VLMP to monitor lake water quality in 2005. Thanks to all for their commitment to monitoring and protecting Maine lakes.

| | |
|---|---|
| Al Andrejcak | Damariscotta Lake, Jefferson |
| Darby Babson | Indian Pond, Lexington TWP |
| Charlie Backenstose | Webber Pond, Vassalboro |
| Jackey Bailey | Research for UMaine |
| Joyce Barry | Damariscotta Lake, Jefferson |
| Kim Borges | Square Lake, T16 R05 WELS |
| Dennis Brooks | Collins Pond, Windham |
| Richard Brown | Collins Pond, Windham |
| Dave Cabanna | Square Pond, Acton |
| Rob Caron | Square Pond, Acton |
| Katie Carville | Allen Pond, Greene |
| Pete Clarke | Sabattus Pond, Greene |

| | |
|---|---|
| Lee Ellis | Moosehead Lake, Greenville |
| Gary Emond | Long Pond, Windsor |
| Jim Gameros | Forest Lake, Windham |
| Gabe Gunning | Trout Pond, Stoneham |
| Kirsten Hepler | Pleasant (Stetson) Lake, Stetson |
| Peter Hickey | Plymouth Pond, Plymouth |
| Kathy Hockman | Bryant Pond, Woodstock |
| Karen Hussey | Somes Pond, Mount Desert |
| Linda Ilse | West Lake, T03 Nd and Escutasis Lake, Burlington and Saponac Pond, Grand Falls TWP |
| Dawn Jepson | Locke Pond, Chesterville |
| Dennis Jepson | Locke Pond, Chesterville |
| Levi Krajewski | Branch Pond, China |
| Eileen Kreutz | Clearwater Pond, Industry |
| Mark Labbe | Cedar Lake, T03 R09 NWP |
| Michelle Labbe | Cedar Lake, T03 R09 NWP |
| Beth Lagasse | Puffers Pond (Echo Lake), Dexter |
| Betty Lee | Pattee Pond, Winslow |
| Victor Lerish | Clemons Pond (Big), Hiram |
| Eldin Lingwood | Crescent Lake, Raymond |
| David Littell | Farrington Pond, Lovell |
| Bob Lord | Damariscotta Lake, Jefferson |
| Walter Lunt | Thomas Pond, Casco |
| Frank McIver | Wilson Pond (Upper), Bowdoin Col Gr West |
| Paul Mitnik | Spectacle Pond, Augusta |
| Tom Miscovsky | Damariscotta Lake, Jefferson |
| Cheryl Murdock | North Pond, Smithfield |
| Chuck Murdock | North Pond, Smithfield |
| Dan Orino | Wilson Lake, Acton |
| Betty Parsons | Cedar Lake, T03 R09 NWP |
| Frank Perkins Jr. | Wiley Pond, Boothbay |
| Sherry Pettyjohn | Mattawamkeag Lake, Island Falls and Pleasant Lake, T04 R03 WELS |
| Christain Poulin | Horseshoe Pond, West Gardiner |
| Brenda Rich | Schoodic Lake, Lake View Plt |
| Rebecca Rockefeller | Damariscotta Lake, Jefferson |
| Katrina Soucy | Kezar Lake, Lovell |
| Rebecca Southwick | Estes Lake, Sanford |
| Richard Southwick | Estes Lake, Sanford |
| Maurice St. Pierre | Lard Pond, Turner |
| Kathleen Towns | Chickawaukie Pond, Rockport |
| Pete Trouant | Meddybemps Lake, Meddybemps |
| Herman Voigt | Kezar Lake, Lovell |
| Ruth Wilson | Saturday Pond, Otisfield |

# New Certified Invasive Plant Patrollers

The goal of the IPP Certification Program is to encourage and support individual and group commitment to annual collection and submission of invasive aquatic plant screening survey data. Certified Plant Patrollers have participated in at least one Basic IPP workshop (or equivalent training), and have made a formal commitment to submitting data annually, using a standardized survey documentation form. The list of those to become certified in 2005 includes 45 volunteer patrollers (listed below) bringing the number of certified IPP to date to 180. To apply for certification please visit the VLMP website at www.MaineVolunteerLakeMonitors.org/mciap/IPPCertForm.pdf.

| | |
|---|---|
| William Allanach | Thompson Lake, Poland |
| Scott Bernardy | Thompson Lake, Ottisfield |
| Kim Borges | Cross Lake, T17 R05 WELS |
| Roberta Brown | Ptcher Pond, Northport |
| Yvonne Burckhardt | Lawry Pond, Searsmont |
| Gloria Burrill | Sebasticook Lake, Newport |
| Madilyn Caggiano | Thompson Lake, Otisfield |
| Bill Currier | Estes LAke, Sanford |
| Carole Currier | Estes Lake, Sanford |
| LeeAnne Deane | Rangeley Lakes, Rangeley |
| Richard Dodge | Lake Alamoosook, Orland |
| George Dugovic | Estes Lake, Sanford |
| Ann Dugovic | Estes Lake, Sanford |
| Fred Edgecomb | Portage Lake, Portage |
| McIver Edwards | Norton Pond, Lincolnville |
| Jeff Ellinwood | Rangeley Lake, Rangeley |
| Carol Ellinwood | Rangeley Lake, Rangeley |
| Susan Gage | Coleman Pond, Newport |
| Wayne Gautreau | Little Ossipee Lake, Waterboro |
| Michael Goulet | Moose Pond, Denmark |
| Stefany Gregoire | Lakes in the Cobbossee Watershed |
| Sarah Gross | Megunticook Lake, Camden |
| Frank Hallett | Portage Lake, Portage |
| Crystal Hitchings | Spring River Lake & Donnell Pond, T09 SD |
| Debbie Hite | Androscoggin Lake, Leeds |
| Jessica Hunter | Cresent Lake, Raymond |
| Pauline Kaiser | Branch Lake, Ellsworth |
| Arthur Langley | Estes Lake, Sanford |
| Terri Linnell | Sebago Lake, Casco |
| Paula Monaghan | Collins Pond, Windham |
| Jo Moore | Androscoggin Lake, Wayne |
| Philip Ouellette | Portage Lake, Portage |
| David Perna | Richardson/Aziscohos, Lincoln Plt |
| Cathy Perna | Richardson/Aziscohos, Lincoln Plt |
| Dwight Sewell | Portage Lake, Portage |
| Ellen Shapiro | Hodgdon Pond, Tremont |
| Helene Skerry | Thompson Lake, Otisfield |
| Sandra Smith | Upper Narrows Pond, Winthrop |
| Helen Stanley | Branch Lake, Ellsworth |
| Paul Talbot | Woodbury Pond, Litchfield |
| Pamela Turcotte | Junior Lake/Duck Lake, Lakeville |
| Michael Weinstein | Green Lake, Dedham and Porter Lake, Strong |
| Penny Weinstein | Green Lake, Dedham and Porter Lake, Strong |
| Laura Wilson | Branch Pond, Ellsworth |
| Joan Yankee | Rangeley Lake (Hunter Cove), Rangeley |
| Lucas Young | Lake Megonticook/Norton Pond, Camden/Lincolnville |

# With a Little Help From Our Friends

## MCIAP's Pressed Herbarium Collection is Growing

By Roberta Hill

Avid plant enthusiast and experienced plant taxonomist, Pixie Williams of Otisfield Maine, has offered to assist MCIAP with the development of its pressed herbarium collection. Pressed plant specimens provide a wealth of information for botanists and plant patrollers, be they seasoned experts or novice volunteers. The expanded library of pressed specimens will focus on aquatic and wetland species, including plants that are native to Maine and those that are considered to be imminent threats to Maine's aquatic ecosystems. The full collection is to be permanently housed at the Woodbury Brackett Environmental Center in Auburn, with several smaller sets of herbarium sheets, specially prepared for the rigors of travel, to be available for educational use across the State.

Other major contributors to MCIAP's herbarium collection include Don Cameron, botanist with the Maine Natural Areas Program and Dr. Keith Williams, water quality monitor and Invasive Plant patroller on Highland Lake in Windham.

Some of you may recognize Pixie Williams, who along with frequent field partner Fred Cummings was honored in 2004 as MCIAP's Volunteers of the Year for their excellent work monitoring both native and invasive plants in the waters of Casco and Otisfield. Obviously not one to rest on her laurels, Pixie has generously offered to lend her enthusiasm and expertise to the expansion of MCIAP's herbarium collection. We thought it was time to shed a bit more light on this volunteer extraordinaire.

Earlier in life, Pixie was a school teacher. Later, upon leaving teaching, she gravitated to volunteer work at the Cary Arboretum, a research station of the New York Botanical Garden, where she performed various tasks in the plant research department. "The work proved fascinating." Pixie worked directly under Dr.

Thanks to Pixie Williams from Otisfield for expanding MCIAP's pressed herbarium collection of aquatic plants.

Thomas Elias who was running the US-USSR Botanical Exchange. She processed plants from the outermost parts of Siberia, and in turn, organized herbarium specimens from all over the US and sent them to the USSR. "There are many interesting stories from those days," Pixie remembers, "with the Iron Curtain still intact." She became so interested in the field of plant taxonomy, she started to collect and preserve plants from Nova Scotia, spending her summers with her family, and donating the specimens to the Cary Arboretum. When home in New York, she availed herself of all the educational opportunities the Arboretum had to offer.

Eventually Pixie and her husband retired to Cape Breton Island in Canada, "though retirement is really not the word to describe our life." There was no full-time plant taxonomist living in Cape Breton at the time, and word soon spread locally that Pixie had "acquired some botanical knowledge." It was not long before her expertise was called upon, first by the local University, who asked her to document the flora of the Bras d'Or Lakes watershed, and then by the Nova Scotia Museum of Natural History, requesting that she document the flora of the lowlands of the Island. "So, armed with two energetic student assistants, I was off and running as I had never run before. They were glorious, exciting days of discovery."

Still eager for knowledge, now seeking a formal graduate degree in plant systematics, Pixie enrolled at the University of New Hampshire and studied under Dr. Garrett Crow, one North America's leading aquatic plant experts. Then it was back to Cape Breton Island where she "did all sorts of interesting stuff." By the time she left Cape Breton, Pixie was an Adjunct Professor of Plant Biodiversity at Cape Breton University and Research Associate of the Nova Scotia Museum of Natural History.

Three years ago, Pixie and her husband moved back to Maine to be closer to their children. Eighty years young, Pixie is "still tramping the woods and kayaking the local lakes." She is active in the Pleasant Lake, Parker Pond Association and volunteers countless hours for the VLMP and MCIAP. Asked what's next? Pixie simply smiles and says, "I intend to keep right on working and hope one day, just to vanish, like the Deacon's One-Hoss Shay! Or perhaps I should say like the deacon's one seat kayak?"

# Woodbury Brackett Environmental Center

Maine's Lake Campus and Volunteer Training Center

This past summer has been an exciting time at the Woodbury Brackett Environmental Center. We have hosted over a dozen events, including workshops for water quality monitoring, Invasive Plant Patrol, Building Your Own Bucket Scope, and Courtesy Boat Inspectors. The Center's Summer Lecture Series was very successful, offering the community a wide range of presenters. Thanks to Mechanics Savings Bank for sponsoring the series for the second year!

Volunteers have been active at the Center inside and out. Richard Jennings, recipient of this years Woodbury Brackett Environmental Center Service Award, has been busy making improvements to the lakes information library, preparing for workshops, and keeping the neighborhood birds well fed (visitors include cardinals, orioles and a brief visit by an indigo bunting.) He has also been extremely helpful with maintenance projects for the Center.

**Restoring the Brackett Environmental Center**

For any of you who have visited recently, you may have noticed that the Woodbury Brackett Environmental Center (50 years old this year) is beginning to show its age. Paint is peeling off the clapboards and the roof is badly weathered. Our beautiful home on the shores of Lake Auburn is in need of some TLC.

New this year to VLMP's Board of Directors, Mark Fuller is spearheading the Brackett Center restoration effort. Mark, a professional landscaper by trade (and handy person by inclination) has been lending his time and expertise to maintaining the grounds and facility for several years. Now, as a member of the Board, he has been turning his attention to addressing some of the more challenging needs (such as the roofing and siding).

The restoration project is part of an overall goal to ensure that the Brackett Environmental Center will be not only be well maintained for years to come, but will evolve over time to meet the needs and interests of our volunteers, and the people of Maine. We welcome your participation in this exciting endeavor. If you have anything to offer--expertise, unskilled labor, tools or materials—please contact us!

One major improvement has already been accomplished. This fall, with the help of the Auburn Water District, a new septic system was installed. Many thanks to the District for their continued investment in the future of the Brackett Environmental Center.

## Summer Lecture Series Highlights

Steve Drane, center, gave a tour of the Brackett Environmental Center herb garden during his presentation on Wild Edible Plants.

Keith Williams, Highland Lake water quality monitor and certified plant patroller, shared his Amazon botany adventure, including stunning photographs.

Biologist Emeritus, Matt Scott, Pleasant River Lake water quality monitor, and Washington County Regional Coordinator, brought in several types of crayfish as part of his enlightening presentation on Crayfish in Maine.

Dave Ladd's talk on songbirds was packed with incredible photographs, personal stories, and amazing bird calls.

### Wish List

| | |
|---|---|
| Chest Freezer or Fridge & Freezer | **Professional Services** |
| Rototiller | Roofing |
| Gardening Tools | Flooring |
| | Electrician |
| | Painter |

# Presenting Your Data

By Jim Entwood

## How to graph Secchi data in Microsoft Excel

Here is a simple method for creating a graphic representation of your Secchi Transparency data. The end product can be used in lake association newsletters, PowerPoint presentations and educational posters. All you need to get started is a computer with the Excel spreadsheet program. The entire process takes only a few minutes.

1. Start Excel and open up a blank workbook. Label the first column "Date" and the second "Secchi Depth" and then fill in your data below.
2. Click once on *Date* and drag the mouse over and down to select all the data we've just entered. It should turn gray. Then click *Insert* then *Chart*.
3. In the Chart Window under Standard Types click on *Line*. Then in Chart sub-type click the left-most chart on the middle row (see figure 1). Then click *Next* and click *Next* again in the "Step 2 of 4" window.
4. In the "Step 3 of 4" window (figure 2) under the Titles tab Enter:
   Chart title: (for example "2004 Clary Lake Transparency"
   Category (X) axis: "Date"
   Value (Y) axis: "Secchi Depth in meters"
5. Click on the *Legend* tab at the top and deselect the Show legend box. Click *Next* and then click *Finish*.
6. This creates a default graph which as you can tell from figure 3 needs some modifying. In order to interpret Secchi Disk Transparency the depth on the y-axis should start with 0 meters (the lake surface) at the top and then increase downward.

   To make this change right-click on the left axis of the graph and select Format Axis... Click on the Scale tab and then at the bottom check the box for Values in reverse order. Then above where it says "Category (X) axis crosses at: _____" enter the maximum number on the Y axis, in the case of our example that would be 5, the deepest Secchi reading in your data. Click *OK*.
7. With this change, the Date labels jump into the graph. To pull them out, right click on the x-axis and select Format Axis... Click on the *Patterns* tab then in the bottom right change Tick mark labels to "High". Click *OK*.


8. Now, we're getting close. Click and drag the "Date" title down to the bottom of the graph under the x-axis. Then for best printing change the gray area behind the graph to white by right-clicking on the gray area and select *Format Plot Area…* In the right panel under Area select the white box in the bottom right and click *OK*.
9. To save your work so far: click *File* and *Save* and then name your file. Now for the fun part. Click once on your graph. Then click *Edit* and *Copy*. Open up your Word document or PowerPoint presentation click where you would like your graph to appear and click *Edit* and *Paste*. *Voila!*

*For additional tips and instructions see our website: www.MaineVolunteerLakeMonitors.org and click on Publications.*

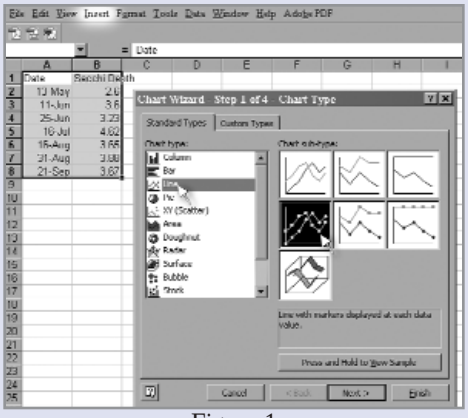



Figure 1

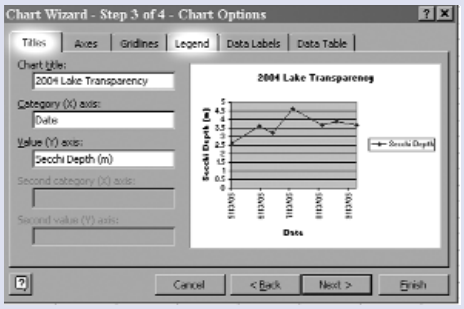



Figure 2

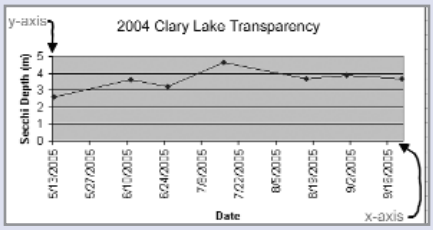
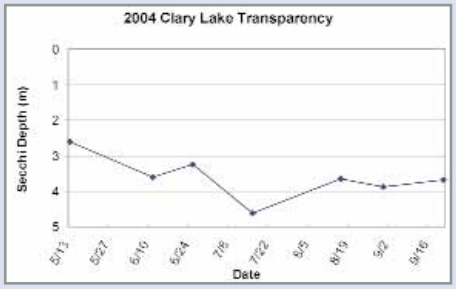



Figure 3

In order to interpret Secchi Disk Transparency graphically the y-axis should start with 0m at the top, representing the surface of the lake, then get deeper. This is the opposite of Excel's default format.




Final Graph

To those who have helped to protect Maine's lakes and ponds by supporting the mission of the VLMP...

*Thank You!*

## Associations and Businesses

"A" Electric
Androscoggin County Chamber of Commerce
Bear Pond Improvement Association
Belgrade Lakes Association
Clearwater Lake Improvement Association
Cold Stream Campowners Association
Damariscotta Lake Watershed Association
Embden Pond Association
Five Kezars Improvement Association
The Groundskeeper
Hancock-Sand Pond Association
Hebron Water Company
Lake Anasaguntcook Association
Lake and Watershed Resource
Management Associates
Lake Wessrrunesett Association
Mechanics Savings Bank
Megunticook Watershed Association
Pemaquid Watershed Association
Pitcher Pond Improvement Association
Portage Lake Association
Robbins Construction
Sebasticook Lake Association
Silver Lake Campowners Association
Somes-Meynell Wildlife Sanctuary
Summer Haven Lakes Association
Wilson Lake Association
Worthley Pond Association
Unity College

## Agencies and Foundations

Auburn Water District
Cumberland County Soil and Water Conservation District
Lake Auburn Watershed Protection Commission
Livermore Falls Water District
Madison Water District
Maine Department of Environmental Protection
Roy Hunt Foundation
Portland Water District
Strout Family Foundation
US Environmental Protection Agency

## Silent Auction Donors

Dick Bredeau
Crockett, Philbrook, and Crouch
DeLorme
Ken Holt
Lawrence Enterprises
Maine Dept Marine Resources
Ness Oil Company
Portland Water District
The Theater At Monmouth

## Individuals

Patricia Baldwin
Forrest Bell
Roy Bischoff
Robert Breen
Elizabeth Brisk
Philomena Brown
Warren Bryant
Gurdon Buck
Alvena Buckingham
Gary Bucklin
Barbara Carney
Gerry & Gail Clark
Diane Clay
Carmen Coulombe
James Crace
George Cross
John Crouch
Thomas Dionis
Gilbert Dostie
Eileen Fair
Thomas Finlay
Katherine Fricker
John Gabranski
Yolande Gay
Bob Giencke
J Gilliam Johnston
Robert Hall
Robert Heyner
Ken Hodsdon
Ellen Hopkins
Joan Jagolinzer
Richard Jennings
Neil Jensen
Richard Johnson
Ralph Johnston
Denise Joy
Roderick Kesting
Brigitte Kingsbury
Daniel Lagueux
Sarah Levine
Steve Lewis
Elden Lingwood
Heidi Lukas
Terri Marin
Bert & Betty Mason
Jeff McNelly
Richard Meyer
Bruce Micucci
Gerry & Meg Nelson
Whitney Oppersdorff
James Orino
Barbara Paiton
Thea Palanza-Parker
Pamela Parvin
Barry Patrie
Karen Peckhem
Wally Penrod
Sherry Pettyjohn
Charles Pichette
John & Shirley Pierce
Larry Pilotte
Joseph Potts
Waldo Preble
Lea Ramirez
John Rand
Chase Rand
Jeanne Raymond
William Reid
Benjamin Rich
Kerry Sack
John Sanders
Ron Schutt
Matthew Scott
Ed & Priscilla Simmons
Heidi Sorensen
Don Stanley
Thomas Stockwell
Edward Thomas
Ben Tupper
Clyde Walton
Robert Warren
Fred Weston
Lew Wetzel
William White
Pixie Williams
Thomas Willis Jr
Gordon Wright

Maine Volunteer
Lake Monitoring Program
24 Maple Hill Road
Auburn, Maine 04210

# Data Submission Reminder

Water Quality Monitors: please send your data to your Regional Coordinator.
Remember to check your forms for completeness and include any lab results.

Invasive Plant Patrollers: please send your plant survey data forms to:
MCIAP
24 Maple Hill Rd, Auburn, ME 04210

Metaphyton Monitoring Volunteers: please send your surveys and photos directly to:
VLMP
24 Maple Hill Rd, Auburn, ME 04210