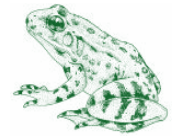


Raymond Waterways Newsletter

Published by Raymond Waterways Protective Association

"To protect and improve pond and lake water quality and foster watershed stewardship"



Summer 2005

Dear Friends of Raymond Waterways;

Our Annual Meeting...

A number of folks have suggested that we change our traditional Sunday afternoon meeting to a weeknight. We know how difficult it is to give up those gorgeous weekend afternoons. In response we will hold our meeting on Thursday, August 4th at 6:30pm. Do come and let us know of your concerns and ideas. Noralee Raymond, our Executive Director, will have a program for us that will be both entertaining and educational. We hope to see you!

A special thanks to our donors...

Thank you to all of our friends who have contributed more than \$14,000

toward our 2005 efforts. We are very close to our goal of \$18,000. We would also like to express our appreciation to Alvin and Flonnie Morrison of Panther Pond for their generous donation of a 14' aluminum boat with a 6 horse outboard for our lakes rangers to conduct invasive plant surveys on all Raymond's lakes. If anyone has an available trailer to help us transport this boat between the lakes please contact us.

What's the big deal about soil erosion?

Soil is the number one threat to lake water quality. Phosphorus attaches to soil particles and fertilizes our lakes. Read the article on page 5 to find out more about the impact of soil erosion and learn how you can protect our lake water quality.

Yes, we are surrounded by milfoil...

As you can see from the map on page two there is invasive milfoil in many lakes near Raymond. These are known infestations, there may be even more. Realistically we must be prepared for an infestation of an invasive aquatic plant in one of Raymond's

lakes at some time. We must be vigilant in our prevention of an infestation by reminding users of our lakes to check their boats, motors, trailers, anchors, and fishing tackle to be sure they are not transporting any plant material. We also must be sure to survey our lake shores each year so that if a lake is infested we catch the infestation early so that we may have a chance to control and hopefully eradicate it.

The method we have found to be effective on small colonies is the placement of benthic

(bottom) barriers. These heavy tarps deprive the plants of sunlight thereby preventing photosynthesis (the process by which a green plant con-

verts sunlight into energy and food it needs to live and grow). This has been one effective way to eradicate the dreaded weed from our waters so long as the infestation is small. Continual monitoring is then necessary to remove single rooted plants. Hence early detection is an absolute necessity. **Please contact us if you are interested in helping us survey our lakes.** An ounce of prevention you know...

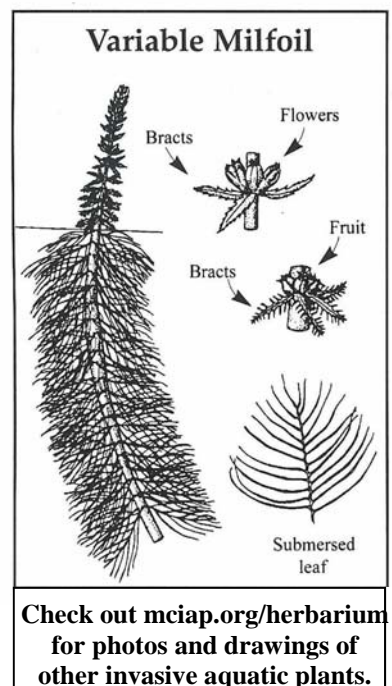
Speaking of prevention...

Get that septic tank pumped! Many people don't get concerned until they experience a problem and by then the remedy becomes very expensive, not to mention inconvenient and embarrassing. Embarrassing? Yes! Imagine how fun it is to have a noisy backhoe dig up your leachbed and deposit all that icky stuff on your lawn. And don't forget the smell! Your downwind neighbors will remind you for years to come. This is definitely a time when delay and denial are costly and best avoided.

(Continued on page 7)

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Check out mciap.org/herbarium for photos and drawings of other invasive aquatic plants.

Spread the Word Not the Weeds - Learn More About Invasive Aquatic Plants

Check out Maine's Virtual Herbarium at www.mciap.org/herbarium. This resource, developed by the Maine Center for Invasive Aquatic Plants, has photos, line drawings, and descriptions of both invasive and native plants.

Often when we think of the threat invasive aquatic plants (IAP) pose to our Raymond lakes, we imagine those dreaded weeds from infested lakes in other states. But the reality is our Raymond lakes are surrounded by invasive plants, not a four hour drive to Massachusetts or Connecticut but right next door - 15 minutes to Thompson Lake in Casco (V. milfoil) or a 5 minute drive to Little Sebago Lake (hybrid V. milfoil).

In fact, right in the Town of Raymond we have several colonies of Variable milfoil along the shores of Sebago Lake - Bayview Estates canals, Port Harbor Marine, Panther Run, and Dingley Brook (the stream draining Thomas P. into Sebago) to name a few.

There are currently 26 lakes and rivers in Maine with known infestations of IAP. Most of the lakes are in Southern Maine and many less than a thirty minute drive from Raymond.

We are virtually surrounded by milfoil – look at a map.

The map shows locations of IAP in the infested lakes based on surveys completed over the last several years. Once established, invasive plants are known to spread rapidly, therefore the IAP may be found in other areas of these lakes.

Though all the lakes on this map are infested with Variable milfoil or hybrid Variable milfoil (Little Sebago Lake and Collins Pond) this is certainly not the only IAP we need to worry about. There are 11 invasive plants on the State of Maine's list of Banned IAP.

Four of these plants have already been documented in Maine lakes: Curly leaved pondweed in West Pond (Parsonsfield), Hydrilla in Pickerel Pond (Limerick), Variable milfoil or hybrid V. milfoil in 23 Maine lakes, and Eurasian milfoil in an Unnamed Private Pond (Scarborough). An RWPA Lakes Ranger prevented Curly leaved pondweed from being introduced to Sebago Lake last season when he found it on an entering boat. Eurasian milfoil is the most recent invasive plant to be found in a Maine lake (Fall 2004). This plant has been known to infest an entire lake within two years, forming thick mats of vegetation on and below the surface that make it impossible to boat, swim, or fish.

Invasive aquatic plants not only threaten the health of our lakes - stagnant mats of vegetation choke out native plants, decreasing oxygen levels and impact fish habitat; it also poses an economic threat to our lakes (cost of eradication, decreased property values, and recreational income).

Maine's 11 Banned Invasive Aquatic Plants

1. Brazilian Elodea
2. Curly leaved pondweed*
3. Eurasian Water milfoil*
4. European Frogbit
5. European Naiad
6. Fanwort
7. Hydrilla*
8. Parrot Feather
9. Variable-leaf water milfoil*
10. Water chestnut
11. Yellow floating heart

*Documented in Maine

26 water bodies in Maine are infested with invasive plants

How can you protect Raymond's lakes from becoming infested with one of these invasive aquatic plants?

- **Always inspect your boat, motor, trailer, anchor, and tackle** before and after launching. Remove ANY plants.
- **Avoid** navigating in vegetation.
- **Become a plant surveyor.** Early detection is essential to controlling its growth.
- **Volunteer** to conduct courtesy boat inspections at Raymond's boat ramps and help spread the word about the threat IAP pose to our lakes.
- **Join RWPA** and stay informed with what's happening in your watershed.

Invasive Milfoil Surrounds Raymond's Lakes



Locations documented are approximate. Invasive plants spread rapidly. Plants may be found in other areas of an infested lake. Therefore, boaters should be extremely cautious and avoid any area of an infested lake that has thick plant growth. Boaters should thoroughly inspect their boat, trailer, anchor, and tackle BEFORE and AFTER launching in an infested lake.

2004 Ramp Inspections and Ranger Program Results

We had a very successful season in 2004 with a large increase in the number of boat inspections, several remediation projects in progress, and plant surveys completed on all of Raymond's lakes.

Inspections 2004

- A total of 460 hours were spent at four launch sites to inspect 1882 boats, a tremendous increase over 2003 inspections (401 boats at 4 sites).
- Removed 11 invasive plant fragments (Variable milfoil) from boats exiting Raymond Beach.
- Prevented the introduction of invasive Curly leaved pondweed from entering Sebago Lake on a boat entering at Raymond Beach.

Please be advised that a low count at some ramps does not necessarily mean that ramp was not visited often. Some ramps just naturally do not get used as much as others.

Remediation Efforts 2004

- Led Jordan Bay Marina staff with removal of Variable Milfoil and placement of benthic (bottom) barriers to eradicate large colonies in boat traffic areas.
- Organized landowners and volunteers in a plant removal effort at Dingley Brook.
- Continued support at Bayview Estates with ongoing management in one canal using benthic barriers (benthic) barriers.

Lake Plant Surveys 2004

- Completed shoreline plant surveys of Raymond Pond,

Crescent Lake, Panther Pond, Thomas Pond, and Notched Pond. **No invasive plants were found.**

- Surveyed several sections of Sebago Lake. Documented colony locations.
- Great thanks to the volunteers who spent a combined effort of over 200 hours surveying all the lakes.

	Raymond Beach	Crescent Beach	Thomas Pond	Panther Run	Combined	% of Total
State of Registration						
ME	1223	359	13	0	1595	85%
MA	56	29	0	0	85	5%
NH	85	41	1	0	127	7%
CT	17	4	0	0	21	1%
VT	1	2	0	0	3	0%
Other	35	16	0	0	51	3%
Total	1417	451	14	0	1882	100%
Boat Have Sticker						
Yes	1287	345	11	0	1643	91%
No	91	49	1	0	141	9%
N/A	20	55	3	0	78	N/A
Total	1417	451	14	0	1882	100%
Plants Found on Boat?						
Plants Found	18	7	1	0	26	1%
Invasive Plant?	12	0	0	0	0	N/A
No plant found	1399	444	13	0	1856	99%
Total	1417	451	14	0	1882	100%

Thank you to our 2004 rangers, Mark Dixon and Deb Cutten, for their dedication and hard work at the boat ramps and on the lakes.

Lakes Ranger Program 2005 - A Busy Season in Progress

Inspections

We are in the midst of a very busy season with three inspectors rotating at four ramps. Mark Dixon has returned for a second summer and we have two new rangers, Christina Perry and Al Lamanda. With 3 inspectors we have been able to cover 3 ramps instead of 2 during the same hours at peak times. We will have the tallies at our Annual Meeting.

We are always in need of more volunteers to help increase the coverage at all four ramps. Your commitment can be a few hours a week or one day a summer. Please remember, our rangers are not always on duty, so ***please be sure to inspect your boat before and after you float! Remove ANY and ALL plants.***

Remediation Projects

We started the remediation season early, a few weeks after ice-out at Sebago Lake, with a diver assisted plant pull and the placement of ben-

thic barriers at Jordan Bay Marina. Bayview Estates has continued with their benthic barriers to control extensive colonies in their canal and RWPA will cover a small section of Dingley Brook later this summer that has been too deep for non-diver plant removal.

Lake Plant Surveys

If you see people paddling along in kayaks and small boats looking over the edge into pipes and buckets, be sure to thank them. RWPA staff and volunteers will be idling and paddling the shores in August to ensure Raymond's lakes are clear of invasive plants. Those pipes and buckets are scopes that help us see the lake bottom. We are always in need of volunteers to help out with the surveys so please contact us if you are interested in spending an afternoon on the lake with our lakes rangers. You can steer the boat or we can teach you how to identify plants. ***If you think you have spotted an invasive plant be sure to contact us. Early detection is essential to preventing the spread of these plants.***



Mark Inspects Boats at Sebago Lake

Water Quality Monitoring Results - Our Lakes Health

By ongoing monitoring, that is. RWPA has maintained a monitoring program since 1974, providing data for the Volunteer Lake Monitoring Program (VLMP), gathered each year during the summer months. Because of this long term activity, we have amassed a solid background of information regarding Raymond's lakes. This "baseline" enables us to identify any significant changes that might occur (such as last year's severe oxygen depletion at the lower depths).

Each of Raymond's lakes has one monitor (some have two) that go out to the deepest part of the lake twice a month and drop down a secchi disc into the water and lower it gradually until it goes out of sight. This is repeated several times for accuracy and to accustom the tester's eyes to the darkness. Monitoring is conducted May to October to give us a good profile of the lakes condition. Although the secchi disc is a simple low-tech device, it can detect a host of potential problems, as many of these affect water clarity, such as excessive bacteria, suspended particles from runoff, discoloration, and chemical incursions.

We are proud of our monitors, as they are doing a valuable service for our lakes. In recognition we mention them here:

Crescent Lake – Waldo Preble and Elden Lingwood

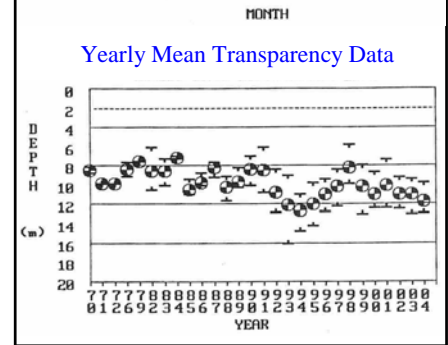
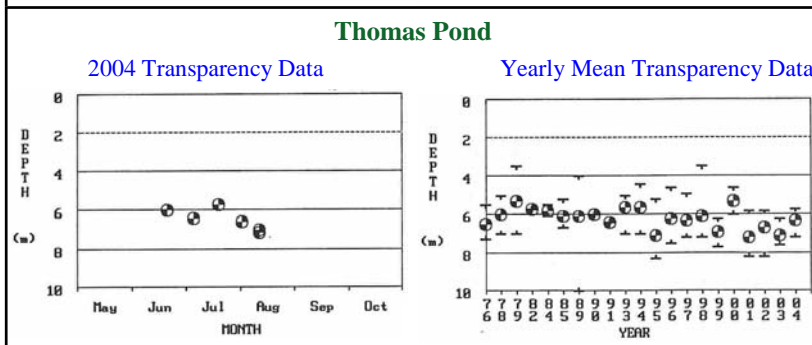
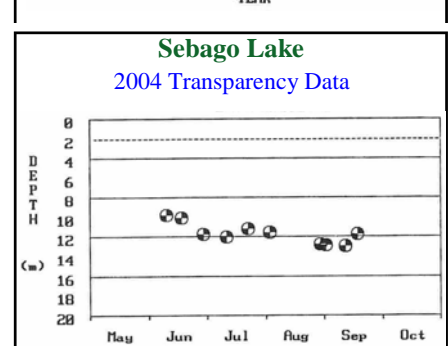
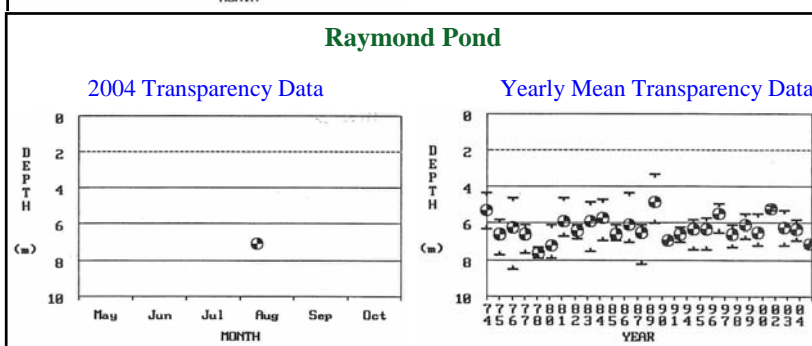
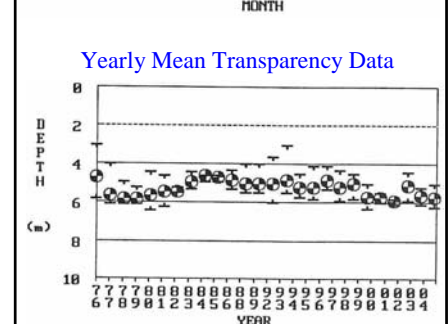
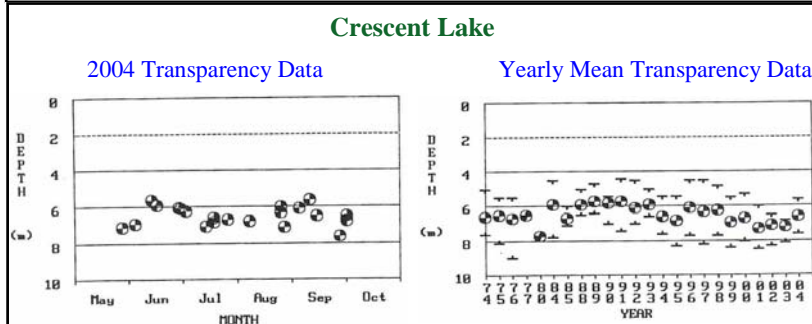
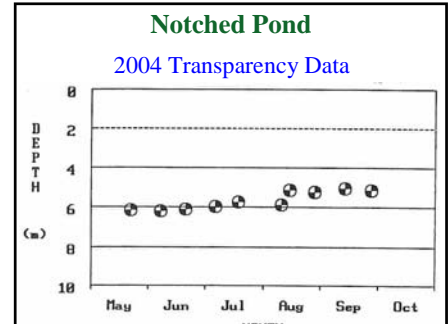
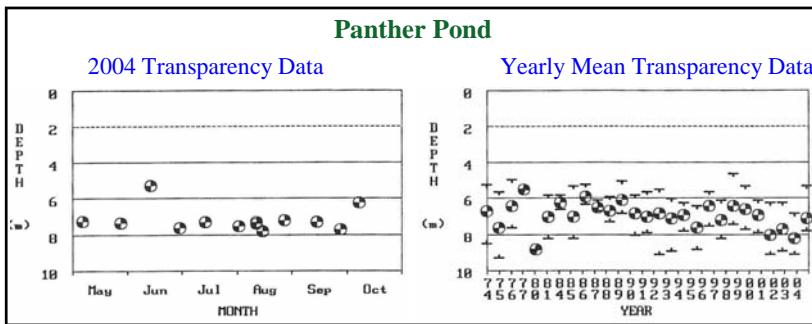
Thomas Pond – Mark Mattson and Walter Lunt

Raymond Pond – Amy Kimball and Peter Marcinuk

Panther Pond – Charlie Turner

Notched Pond – Gary Bucklin

Our thanks to these folks for their important work.



Soil Erosion – The Greatest Threat to Our Lake Water Quality - Why?

Soil erosion is the single greatest threat to water quality. Why? Soil, nutrients and other pollutants are carried into the lake by storm water runoff from rain or snowmelt as it flows across the land. Soil particles contains the nutrient phosphorus, a natural fertilizer that is found in soil and rocks, and occurs in man-made detergents, fertilizers, and sewage. When soil enters the lake, carrying phosphorus, it promotes rapid algal blooms. As the algae die off, the water becomes depleted of oxygen through the breakdown process, and fish and animals are unable to survive.

Algal blooms also turn water green and murky, make rocks slippery and give drinking water an unpleasant taste and odor. It is the scarcity of phosphorus in a lake that limits algae growth. However, when a lake receives extra phosphorus, algae growth increases dramatically.

How do we know what effect phosphorus has on our lakes? In Canada, pristine lakes are set aside for research studies. One such lake was divided in half with a vinyl sea curtain. Both sides were fertilized with equivalent amounts of carbon and nitrogen on a weekly basis. Only one side was treated with small amounts of phosphorus.

The results... within a few weeks of beginning the fertilization, a surface algae bloom developed only in the basin receiving phosphorus. Repeated eight consecutive years, algae blooms only ever occurred in the basin receiving phosphorus.

Why should we protect our lakes from polluted runoff? Once a lake has declined it can be difficult or impossible to restore. Prevention is key. Our lakes provide valuable habitat for fish and other wildlife. Our lakes also provide recreational opportunities to watershed residents and visitors.

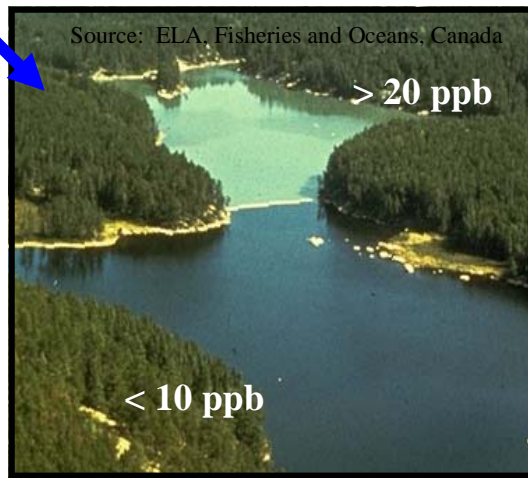
Lakes are an important contributor to the local economy. A 1996 University of Maine study demonstrated that lake water quality affects property values. *For every meter (3 ft) decline in water*

clarity, shoreline property values can decline as much as 10 to 20 percent! This affects individual landowners as well as the economics of the entire community.

How do we protect our lakes from polluted runoff and the harmful effects of phosphorus?

- Prevent rain water runoff from washing soil and pollutants directly into streams and the lake by diverting the flow into vegetated areas.
- Near the lakeshores, avoid clearing vegetation and let the lawn and raked areas return to a natural plants.
- Avoid exposing bare soil. Seed and mulch bare areas.
- Pump out septic systems every 2-3 years (4-5 for seasonal camps) and upgrade marginal systems
- Take a soil test, and if you must use fertilizer at all, use phosphorus free fertilizer.
- Plant a vegetated buffer at the shoreline to help slow down and filter runoff before it reaches the lake. Land vegetation will use the nutrients carried by storm water, preventing those nutrients from reaching the lake. The wider the buffer the better it works.
- Don't bring in sand to create beaches. Don't rebuild beaches without proper permits and dealing with up-land runoff.

- If you have an erosion problem on your property, contact RWPA and we can visit your property to offer recommendations to fix the problem.



Pristine lake divided in half. Phosphorus added to top half created algal bloom

What is the phosphorus level in Raymond lakes?
Crescent Lake - 6 ppb
Raymond Pond - 7 ppb
Panther Pond - 5-12 ppb
Thomas Pond - 6-16 ppb
ppb - parts per billion

RWPA Offers Free Technical Assistance

RWPA is offering free technical assistance to landowners on all Raymond's lakes and ponds. Do you have a lawn that runs up to the edge of the lake? Does your gravel driveway or road wash out every year? Call Noralee Raymond at 671-3329 or e-



Plant a Buffer Today!

mail lakes@raymondmaine.org to schedule a visit to your property. After the visit, we will provide you with a free packet of materials specifically designed to help you fix the problems. Any recommendations we make are voluntary.

Panther Pond Conservation Project

The Panther Pond Association (PPA) successfully received federal grant funds for the Panther Pond Conservation Project. Which began in April Over the next two summers Panther Pond residents have the opportunity to participate in this grant to reduce erosion problems and protect the quality of Panther Pond.

Free Technical Assistance

- Does your path, driveway, or road wash out every year?
- Do you have lawn that runs up to the edge of the lake?

Project staff can visit your property and suggest ideas for solving these common problems.

20 Matching Grants for Native Plants and Conservation Materials

Twenty matching grants up to \$100 will be offered toward the purchase of native plants for vegetative buffers or toward the purchase of materials (rocks, timbers, erosion control mulch) to install conservation practices such as runoff diverters and EC mulch to stabilize paths. Inexpensive conservation practices are practical, affordable, easy to install, and can make a big difference in water quality.

22 Remediation Projects

Funds are available to address 22 high and medium impact erosion sites, as identified in the Panther Pond Watershed Survey. Landowners and road associations of these sites are eligible to receive free technical assistance and 50% cost sharing to fix erosion and runoff problems. Several sites have already been selected based on the level of impact and landowner's desire to participate. If you are interested in this financial assistance contact us.

Workshops and Tours

Workshops and tours will be held both seasons to demonstrate the best methods for planting shore-line vegetation and installing erosion control measures.

Our first workshop was held July 7th at the Maple Avenue Right of Way. Sixteen participants helped to create a large rock-filled infiltration trench at the top of the path, line the path with geotextile fabric to prevent further gullies and spread crushed rock the length of the path. To be notified of future workshops, please contact us.

Cruise the Buffers— come join us for a pontoon ride around the lake on August 6th from 3-5pm. The tour will highlight projects completed this season and point out different types of vegetated buffers— from natural to landscaped. Picnic after the tour— come meet your neighbors. Buffers filter runoff by stopping soil particles

from reaching the lake and using nutrients carried by runoff. See the soil erosion article on page 5 for more information on erosion impact to lakes.

Projects Completed and In Progress

We are off to a busy start. So far we have completed two projects and are planning several others in August. Five residents have taken advantage of the matching grants (up to \$100) to plant buffers and install conservation measures.

Our first remediation project was at Camp Hawthorne. Counselors installed two rubber blade water diverters across the camp road.

After the camp season, we will be installing infiltration steps along an eroding high traffic bank, creating a rock filled trench to infiltrate the parking area, spreading erosion control mulch on the camp paths.

The Morrisons of South Shore Colony were the first landowners to participate in the Matching Grants for Native Plants with the purchase of 30 blueberry bushes. The Haydens of Meadow Road have purchased erosion control mulch for their path and materials to install a diverter across the driveway to direct runoff from 121 into vegetation and away from the lake.

If you are interested in receiving technical assistance, matching grants, or would like to attend any of the workshops or the buffer cruise please contact PPA at ppa@raymondmaine.org or contact Noralee at 207-671-3329 or lakes@raymondmaine.org.

Project Highlights

Free Technical Assistance
20 Native Plant Matching Grants
22 Erosion Remediation Projects
Workshops and Tours
PPA Annual Meeting August 2, 7-9pm
Cruise the Buffers August 6, 3-5pm

MAPLE AVENUE RIGHT-OF-WAY WORKSHOP



BEFORE: Chronic erosion on ROW with exposed roots and gully



AFTER: Stone infiltration trench & path with waterbars

Thomas Pond Conservation Project

It's been a busy past two few years in the Thomas Pond Watershed. The project is nearing completion. To date road construction and improvements have been completed on Watkins Shore Road, Thomas Pond Terrace, Thomas Pond Shore Road, and Quaker Ridge/Libby Road. The improvements include culvert extensions and inlet/outlet stabilization, ditching, grading and rubber blade diverters.

Twenty native plant matching grants were awarded throughout the watershed to help enhance vegetation near the shoreline. The grant matched landowners 1:1 up to \$100 in the purchase of native plants.

The project also offered **free technical assistance** to interested landowners. Though only 15 were required, 32 were completed by the Cumberland Co. SWCD, Portland Water District, and the Maine DEP. This indicates the watershed community truly is concerned for the health of

the pond and wants to do the right thing.

Two buffer cruises were conducted to view different types of buffers— from natural to landscaped and show how the many types are beneficial to the health of the pond by filtering runoff and capturing soil particles.

The project also involved **many outreach activities**, including a project fact sheet to all residents, news articles and press releases, public access TV spots, and a final project brochure available at libraries in Raymond and Casco.

Thanks to all the watershed community for their support during the project. Project partners include: Thomas Pond Improvement Association, local residents, the Towns of Raymond and Casco, Portland Water District, Raymond Waterways Protective Association, local road associations, Maine DEP, and the Cumberland Co. Soil and Water Conservation District.

Gleotrichia (that's glee-oh-trick-eee-ah)

We are sure you have noticed during certain periods of the summer months the lake seems to be invaded with little fuzzy off-white balls, usually less than 1/8" diameter, sometimes so thick in concentration seeing the lake bottom becomes difficult. Well, welcome to the world of Gleotrichia. This blue green algae (really a bacteria) is not the type that makes a lake "go green" as happens in some Maine lakes. These little tapioca looking white dots are actually a colony of gleotrichia.

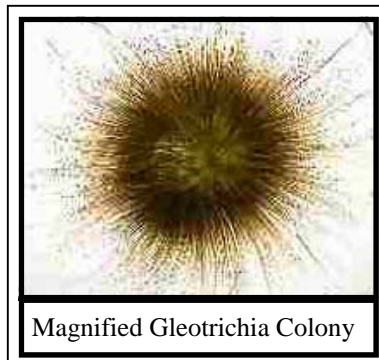
Strangely enough, it usually appears in lakes with good water clarity which usually means lakes with low phosphorus content so that most types of algae do not grow prolifically. These little fellows over-winter on the lake's bottom, where they absorb a lot of phosphorus. In late spring and summer they rise and occupy the top several feet of the lake surface where they multiply in tremendous numbers when exposed to the sun. As quickly as they appear, they also diminish, the entire process taking place within two weeks. The entire scenario can take place several times throughout the summer, with cessation occurring by mid-October.

Dear Friends *continued from page 1*

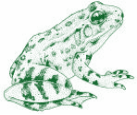
There are guidelines for pumping your septic system. Every 2-3 years for year round residents and every 4-5 years for seasonal residents. Or if you like living on the edge you can follow this formula: family of 4, every 4 years; family of 3 might wait 5 years; family of 5 might hold out for 3 years. Of course this approach needs to be

Are there any human health concerns? Generally no, though some studies have shown that in high concentrations it may cause skin irritation that might be mistaken for swimmer's itch and ingesting a lot can cause stomach upset. Yet another reason not to drink unfiltered or untreated lake water.

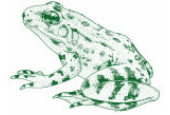
What does this say about water quality? Not much research has been done on the topic. We do know that when it rises from the lake bottom it can move a lot of phosphorus from the sediment into the lake water that normally would not get there but there is no research showing this could lead to worse conditions down the road. The presence of gleotrichia does indicate that our lake bottoms have enough nutrients such as phosphorus to sustain repeated growths of gleotrichia. That should prompt us to do everything we can to prevent runoff and erosion into our lakes. Though such actions may not prevent Gleotrichia blooms in the short term, they could help over time and are absolutely needed to avoid more obnoxious, lakewide algae blooms in all Maine's lakes. *This article adapted from "Gleotrichia" by Ray Bouchard published in the VLMP Water Column.*



adjusted by a number of variables, such as does aunt Minnie have chronic diarrhea or do teenagers Jim and Jane require 3 showers a day to maintain optimum presentability? And don't forget the capacity of your septic tank and leach bed. For these reasons and others, an expert should be consulted. And don't forget to get it pumped!



2005 RWPA Membership Form



Thank you to our members who have already contributed in 2005. If you have not yet contributed please help us reach our 2005 goal of \$18,000 in 2005. Here is the form to fill out. Thank you!

I am glad to be a member: Again _____ For the first time _____

My lake/watershed is (please circle one): Crescent Raymond Thomas Panther Sebago Notched Nubble

Enclosed is (please circle) \$500 \$300 \$150 \$100 \$75 \$50 \$25 Other _____

Name _____ Phone Number _____ E-mail _____

Mailing Address _____

Raymond Address (if different) _____ Raymond Phone _____

Please mail contributions to: RWPA, PO Box 1243, Raymond, Maine 04071

Volunteers Needed

Let us know if you are interested in volunteering for an afternoon or on a regular basis. No experience needed. We will provide all training.

- Boat Inspectors
- Shoreline Surveys
- Milfoil Removal Projects
- Water Quality Monitors
- Planting & Digging

Board of Directors and Staff

President

Charlie Turner

Vice President

John Rand

Treasurer

John Palmer

Secretary

Connie Cross

Peter Wilson

Ben Severn, PPA

Executive Director

Noralee Raymond

Rangers

Mark Dixon

Christina Perry

Al Lamanda



Save the Date!

RWPA Annual Meeting

Thursday, August 4th
6:30pm
Public Safety Building

Raymond Waterways Protective Association

To protect and improve pond and lake water quality and foster watershed stewardship

RWPA

PO Box 1243

Raymond, Maine 04071

Phone: 207-671-3329

Email: lakes@raymondmaine.org

Updates will be posted on the Town of Raymond website:
www.raymondmaine.org/committees/waterways/default.htm

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