



Newsletter 2004

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The Enemy is Us... Phosphor“Us”!

Another year has passed, and what a twelve months it has been! It has undoubtedly been one of the most enlightening chapters in the Three Lakes Council's 34-year history.

As a great many of you are aware, the Three Lakes Council commissioned an exhaustive lake management study in September 2002, and recently Michel Martin, president of Cedar Eden Environmental LLC, delivered his final report to a standing-room-only crowd at the South Salem Firehouse. This issue of the newsletter is devoted to a discussion of that 104-page study, its principal findings and our next steps. For those interested in even greater detail and analysis, you can download Michael's full report on our web site:

www.threelakescouncil.org.

Armed with comprehensive data on everything from watershed topography and soil conditions to water chemistry and oxygen depletion to storm drain placement and land use, we can begin to stem the decline of Lakes Waccabuc, Oscaleta and Rippowam and maybe remediate some of the damage already done... but it will take a collective and concerted effort on all of our parts. Everyone who lives on the Three Lakes and in the surrounding watershed needs to PITCH IN. There is no alternative. There is no silver bullet.

We have found the enemy, and it is us... more specifically, the phosphor“us” that humans and their activities have contributed to the lakes in the form of fertilizers, septic waste, storm drain effluent and new

construction. The phosphorus loads in all Three Lakes are quite high (126 kg/yr in Rippowam, 247 kg/yr in Oscaleta, 551 kg/yr in Waccabuc), contributing to a significant decline in dissolved oxygen and, consequently, water quality. As Exhibit 1 indicates, both Rippowam and Oscaleta are borderline eutrophic, and Waccabuc is already there. A clean, clear lake is considered oligotrophic; eutrophic lakes, on the other hand, have lots of weeds, algae and poor water transparency.

The good news is: some of the phosphorus load in the three lakes is “controllable,” meaning humans put it there, and humans can stop putting it there. And that's the next step in the Three Lakes Preservation Plan – determining exactly where the phosphorus is coming from and taking active steps to turn back the tide... so to speak.

The lake management study has thus far cost us \$18,000, but, clearly, there is more to be done. To develop a meaningful trend line, we must continue to collect and analyze data. Therefore, we have just contracted with Cedar Eden to do an additional \$7,500 worth of work through 2004.

Our gratitude goes out to those who have contributed their dues and then some to this important study. Some donations have been in the form of money; others have contributed their “sweat equity.” Our fundraising drive at the end of last year raised more than \$15,000. THANK YOU! As always, our annual dues notice is attached to this newsletter. Please be aware that donations are tax-deductible, and those who contribute more than \$250 will receive a “Three Lakes Historical Perspective” poster, pre-mounted and suitable for framing.

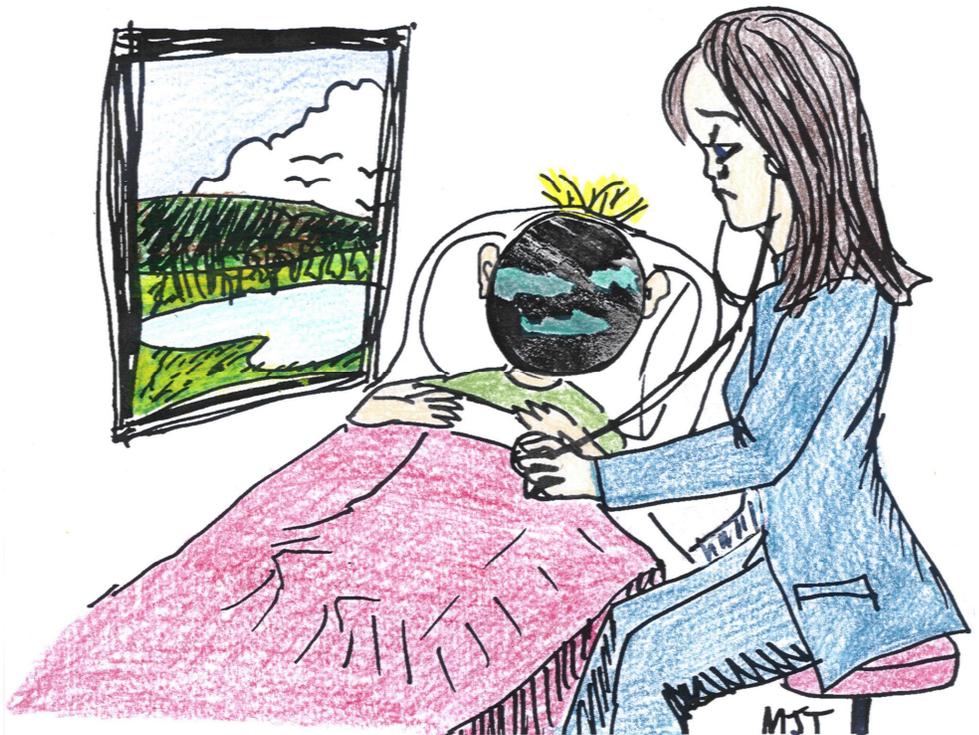


Exhibit 1: Three Lakes' Trophic State Index

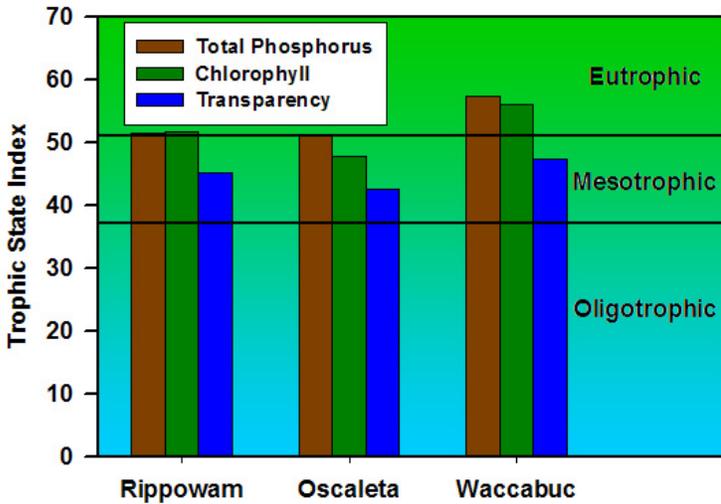


Exhibit 2: Filtered water from Three Lakes



Source for all exhibits: Cedar Eden Environmental, LLC

Exhibit 3: Storm Drain Map (approx. 140 drains in the Three Lakes watershed)

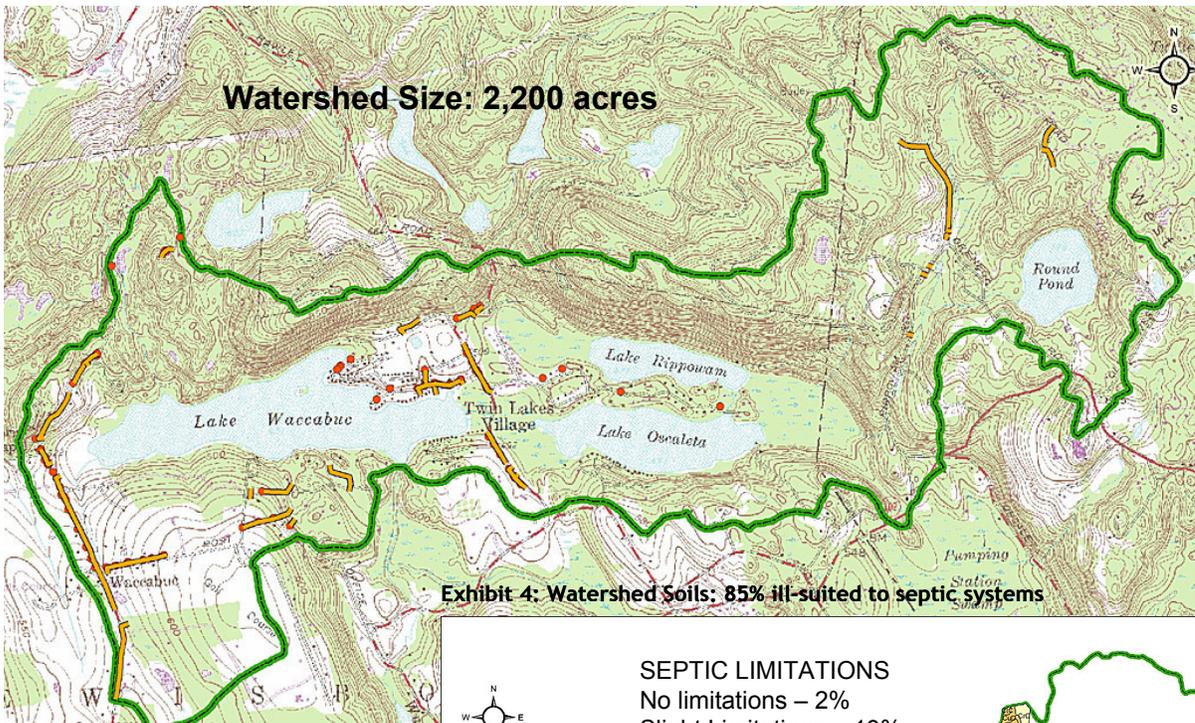
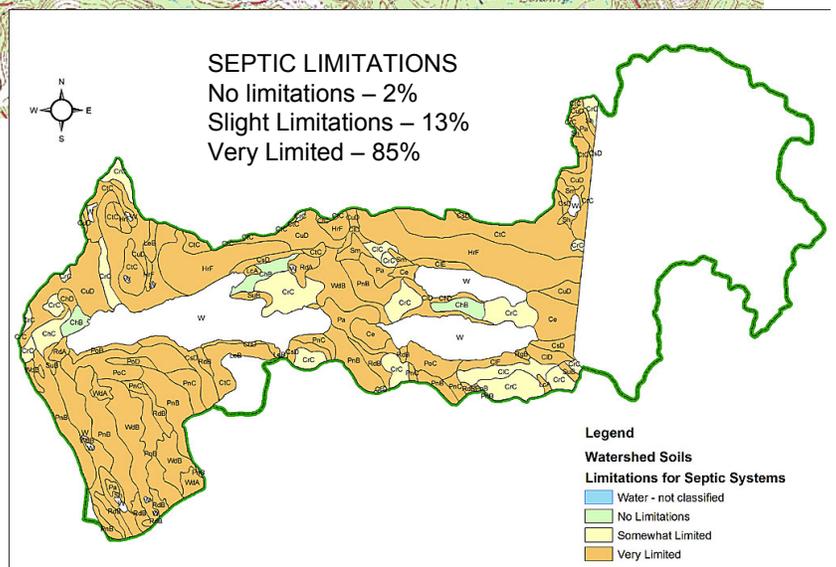


Exhibit 4: Watershed Soils: 85% ill-suited to septic systems



Although our lakes are clearly in trouble, it is important to note that corrective action can still be effective, so it is well worth implementing this management plan. Priority #1 is reducing the phosphorus loads in the Three Lakes by:

- Rippowam 26%
- Oscaleta 25%
- Waccabuc 50%

Dee DelBello printed this keepsake at no cost to the Council, and we are deeply grateful.

For those still looking for a way to help with the Three Lakes Preservation Plan, you still have a chance. We have a crucial task remaining that will require the participation of every single Three Lakes resident. To source the phosphorus load, we are about to embark upon a septic system survey. The object is not to “point fingers,” but rather to establish a baseline understanding of the overall septic situation, and how big or small a contributor it is to the phosphorus loads in the Three Lakes. This summer, while most residents are here, representatives of the Three Lakes Council will visit each household with septic survey forms for you to fill out and mail in. In advance of that visit, you could contribute greatly by giving thought to where your septic system is located, so that you can fill out the forms when you receive them.

In addition, you could help by reading this newsletter and learning. Have a great summer, and let's forge ahead in protecting the health of our watershed. To paraphrase the late great JFK, “Don't ask what the Three Lakes can do for you. Ask what you can do for The Three Lakes!”

--Dr. Peter S. Treyz
President, Three Lakes Council

Cedar Eden Study: Executive Summary

In September of 2002, the Three Lakes Council embarked upon the most ambitious, scientific undertaking in its history by contracting with Michael Martin, President of Cedar Eden Environmental, LLC, to conduct a study of our watershed, provide guidance to volunteers, and prepare a lake management plan. Michael is a leader among only a handful of certified lake managers in the United States.

We lake residents have always wanted the same things: high quality lakes with clear water, few weeds, and good fishing. But studies show that the “solutions” of yesteryear, such as putting in grass carp or chemicals to control the weeds can have disastrous consequences. The panacea that we all wish for does not exist. The Cedar Eden study has underlined just how delicate our watershed's ecological system is, and how much scientific research and analysis is necessary to effectively treat it.

At a special meeting held On May 21 at the South Salem Firehouse, Michael Martin presented the chief findings of his year-long study of our Three Lakes and his recommendations for a course of action. For those who could not attend or would like to see it again, Michael's presentation is

available on videotape thanks to the Town's own Joel Smith, who volunteered his time and his talents. Contact Peter Treyz for a copy at 763-8617. It will also be broadcast on the Town TV channel. The full 100-plus page report entitled “Diagnostic-Feasibility Study and Lake and Watershed Plan for Lake Rippowam, Lake Oscaleta and Lake Waccabuc” is available for downloading at www.threelakescouncil.org. Here, we present the highlights.

The comprehensive scientific testing and data collection covered by this report will form the basis for an intelligent and effective lake management and preservation strategy. Such a strategy will help slow the aging of our lakes and enable us to press more effectively for government action (see following article). Following Michael's presentation, Town Councilwoman Jessica Bacal commented to the *Lewisboro Ledger*, “As with children and pets, lake health can't be taken for granted but must be carefully monitored, with medication administered as needed.”

In his report, Michael explained the scientific terms that define lake health.

- Oligotrophic lakes are the healthiest – low in nutrients, minimal algae, good water transparency.
- Eutrophic lakes are *unhealthy* -- high in nutrients, lots of algae, poor transparency. Waccabuc is firmly in the eutrophic range.

Three Lakes Council Meeting - February 18, 2004



- Mesotrophic lakes lie in between these two extremes. Oscaleta is in the mesotrophic range, and Rippowam is at the mesotrophic/eutrophic boundary.

Reducing Phosphorus

On an annual basis, an estimated 2,037 pounds (924 kg) of phosphorus enter our watershed (see Exhibit 5). The good news is: we have the potential to control about 60% of it (1,249 lbs /566 kg), some easily and some not so easily. The 40% (788 lbs / 358 kg) that we cannot control comes from precipitation and forestlands, which we would not want to disturb, even if we could. Forests manage their phosphorous budgets very effectively, and any clearing of them would adversely impact the lakes through additional phosphorous runoff and siltation. Happily, much of the Three Lakes watershed is still virgin forestland.

Of the 1,249 pounds over which we can exert some control, a little over

half (649 lbs) comes from the land surrounding the lakes. The remaining 48% (600 lbs) comes from internal loading (the phosphorous already in the lakes). Internal loading is not much of a factor for Rippowam, but it is for Oscaleta, and it represents some 44% of the phosphorus in Waccabuc.

Phosphorus is the “growth-limiting” nutrient in our lakes. That means that nutrients *other* than phosphorous can be added without accelerating plant and algae growth, but once phosphorous is added to the “diet,” plants and algae flourish. To give you an idea of the magnitude of the phosphorus problem, an incremental pound of phosphorous can theoretically generate 500 pounds of algae, if all other nutrients are present.

External Loading: Two if By Land

Most of the phosphorus entering the Three Lakes via land comes from two primary sources, both man-made: fertilizer and septic systems.

Fertilizer: The easiest way to reduce the phosphorus load is to eliminate the use of fertilizers. Phosphorus is not necessary for lawns in our area; a simple soil test will reveal exactly what you need. If you must use a fertilizer, there are phosphate-free fertilizers made by Espoma, among others. While difficult to find, Young’s in Ridgefield stocks it, and we are working with other local nurseries to persuade them to order it.

While you might not achieve the perfect, weed-free, green velvet lawns featured in golf magazines, you also won’t be swimming and boating in weed-infested, algae-coated lake water. It’s a question of priorities... and, ultimately, property values. Lake houses don’t generate bidding wars because of their lawns. So, please reconsider the use of fertilizers. Moreover, if you use a lawn service, insist that they apply fertilizers only where necessary and then only phosphate-free fertilizers.

Exhibit 5: Phosphorus Budget for the Three Lakes

Land Use (Source)	Rippowam		Oscaleta		Waccabuc		Total Watershed	
	kg	%	kg	%	kg	%	kg	lb
Total Phosphorus								
Open Land (Residential)	15.11	12.0%	51.61	20.9%	113.08	20.5%	179.8	396
High Density Residential	0.94	0.7%	1.73	0.7%	1.03	0.2%	3.70	8
Low Density Residential	6.23	4.9%	13.51	5.5%	45.41	8.2%	65.15	144
Water Supply	22.80	18.0%	22.80	9.2%	0.00	- - -	45.60	101
Total Residential	45.08	35.6%	89.65	36.3%	159.52	28.9%	294.25	649
Internal Loading	0.06	0.1%	28.86	11.7%	243.27	44.2%	272.19	600
Total Controllable	45.14	35.7%	118.51	48.0%	402.79	73.1%	566.44	1,249
Forest	75.08	59.4%	116.57	47.2%	122.84	22.3%	314.49	693
Precipitation	6.17	4.9%	11.88	4.8%	25.15	4.6%	43.20	95
Total Uncontrollable	81.25	64.3%	128.45	52.0%	147.99	26.9%	357.69	788
TOTAL	126.39		246.96		550.78		924.13	2,037

Lake Associations - Contact Info

Association	Contact	Phone	E-Mail
Three Lakes Council	Dr. Peter Treyz	763-8617	
Lake Oscaleta Association	Joe Tansey	763-3456	joetansey@msn.com
Lake Waccabuc Association	Ed Delaney	763-8089	edgail@bestweb.net
Lakeside Association	Ron Tetelman	763-6335	ron@eberlin.com
Perch Bay Association	Paul Passidomo	763-6387	paulpassidomo@aol.com
South Shore Association	Joe Gillert	763-8104	j@bestweb.net
Two Lakes Club	Liz Fryer	763-5799	efryer@optonline.net
Waccabuc Landowners Council	Jack Sinnott	763-9859	jsinnott@optonline.net
Waccabuc Country Club	Bob Ryan	232-0770	photohook@aol.com

Frankly, the best approach to “fertilizing” your lawn is to water it with lake water, which is rich in nutrients, as we know. An added benefit is that some of the water will return to the lake with the phosphorus filtered out.

While the lands closest to the lakes obviously have the greatest impact, parcels quite a distance away also feed our lakes. Runoff from the heavily fertilized lawns on Rippowam Road in Ridgefield, for example, follows a fairly direct route to the lakes via storm drains and a stream. That’s a source worth testing. Another source that already tests high for phosphorus is the stream entering the west end of Waccabuc. In the coming year, Cedar Eden and local volunteers will be regularly testing all the streams entering our watershed.

Septic Systems: Septic systems’ contribution to the Three Lakes phosphorus load is clearly harder to measure and control. Still, we must try, and we will this summer with the use of septic surveys. With your cooperation, volunteers from the Three Lakes Council will collect data on the location, size, age and condition of each septic system around the lakes. We recognize that some of this information will be sketchy, at best, and that this is a sensitive issue that must be handled with discretion. Our overriding goal is to stem the flow of phosphorus into the lakes, not police individual septic systems. The more we know collectively, the better our prospects of improving lake health.

At this point, we are considering using two forms – one will take you through a self-assessment of your system for your education and the

other will gather information for our database, so we can make more informed overall decisions.

Those septic systems closest to the lakes will be our immediate priority, but those near watercourses are also important. Please help us with this undertaking if you have the time and interest; we need volunteers!

Orthophosphate in the Water Supply:

The Department of Health has required the Twin Lakes Water Works (which covers the houses on and around Twin Lakes Village Road) to inject orthophosphate into their drinking water to reduce the amount of lead and copper leaching from plumbing fixtures. While concerned about the potential impact on the lakes, we were unsuccessful in overturning this requirement as public health overrides environmental concerns with the Health Department, as it should. We are trying to find an alternative to orthophosphate. Until then, we can be sure that it will contribute to the phosphorus loads in Rippowam and Oscaleta.

Streams: As mentioned, Cedar Eden Environmental will be monitoring stream flow and phosphorous levels to quantify streams’ contribution and design corrective action.

Internal Loading: What Lies Beneath

Over the years, a large quantity of phosphorous has accumulated, and continues to accumulate at the bottom of the lakes, particularly in Waccabuc and, to a lesser degree, Oscaleta. In a healthy lake, there is sufficient oxygen in the lower strata to keep this phosphorus tied up in the sediments,

but if that oxygen is depleted – as it is in Waccabuc and Oscaleta at the height of summer – the phosphorus is released and promotes algae blooms and weed growth.

The aerators in Lake Waccabuc are specifically designed to “oxygenate” the bottom of the lake, but the Cedar Eden study indicates that they are not up to the task.

We need to either enlarge the aerators or replace them... or, alternatively, treat the bottoms of Lakes Waccabuc and Oscaleta with a substance called alum, which binds the phosphorus and prevents its escape into the upper strata. These are big expenditures -- between \$50,000 to \$100,000 for each lake - but, relative to recent property values, maybe not too costly to consider.

However, our first line of attack must be to control the phosphorous influx from outside the lakes!

Local Heroes

Our community is doubly blessed by those who volunteered their time and resources to our important lake management study. Their work not only held down our costs but also enriched our collective understanding and investment in a solution. We wish to thank the many volunteers who helped with the following tasks:

Dissolved Oxygen testing: Peter Beardsley, Jack Cedarholm, Lou Feeney

TASK: Weekly dissolved oxygen and temperature profiles, along with water clarity measurements, taken to determine the effectiveness of the aerators.

Bathymetric Mapping: Larry Fryer, Joe Tansey, Ron Tettelman

TASK: Measurements of Oscaleta and Rippowam depth and physical characteristics to determine lake volumes, flushing rates, oxygen depletion, and nutrient budgets. Waccabuc was mapped in 1965 by Jack Gullen and will need to be redone.

Storm Drain Survey: Jack and Betsy Sinnott, Chuck McGroddy, John Lemke, Dasher Hammerstein, Brian Smith and daughter, Peter Sutura, Patricia Lynch, Patrick Black, Ellen Adrian, Paul and Patrice Passidomo. Joel Smith contributed the GPS location data he gathered for the Town of Lewisboro's recent storm drain study.

TASK: Location, description and characterization of all 140 storm drains in the Three Lakes watershed, which includes land in Ridgefield, Connecticut. Volunteers recorded data describing the physical characteristics of each drain and the property immediately surrounding it. In Connecticut, we used our own GPS equipment to take readings and collected descriptive data there as well.

This survey was a major undertaking that furnished valuable data, which we have used to group the drains into systems and assess their impact (see Exhibit 3). The distance that some drains transport water – and, more importantly, pollutants -- is amazing!

Boat Loans: Ross Weale, Peter Beardsley, Jack Cedarholm, Joe Tansey, Gene Tedaldi.

TASK: Permission to use their boats to conduct monthly tests and special lake surveys.

Many thanks to one and all!

-- Paul & Jean Lewis

Phosphorus: What's the Phuss?

Its chemical symbol is P. Its atomic number is 15. It has an atomic weight of 31. It's phosphorus, and, as elements go, it is highly common... indeed the 12th most abundant element on Earth.

Phosphorus is highly reactive, and, as such, does not exist in nature in its elemental or pure form. You can, however, isolate it through a sequence of chemical reactions. It is a soft, non-metallic solid material with a yellow-white color that reacts instantly if exposed to air, creating a bright flash, therefore, elemental phosphorus is always stored, handled or shipped while immersed in water. When phosphorus combines with oxygen, its favorite chemical partner, the new molecule is called phosphate. There are many different forms of phosphates; they form a whole chemical family - a family with lots of relatives.

Phosphorus is essential to all life, including our own; it's an active ingredient in our nerve and bone tissue. Since the dawn of man, we've been using phosphorus, in the form of phosphate, to fertilize our soils, and that remains, far and away, the main commercial use of phosphorus/phosphate compounds. Other uses include: home laundry and dishwasher detergents, industrial and institutional cleaners, food and beverage additives, wastewater treatment chemicals, insecticides, herbicides, and some forms of antifreeze.

As Three Lakes residents, it's important to understand that nature "loads" our lakes with phosphorus every day. Natural water runoff carries the phosphorus from not only soils, but also plant and animal tissue, into the lake. These are sources we cannot readily control. We can, however, control our own behavior and how it impacts the health of the lakes. Phosphates fertilize the lakes, generating too much algae and plant growth, which can then multiply at accelerated rates and choke the lakes. Anything we can do to reduce our own contribution to the phosphorus loading in the Lakes will help improve their health and longevity. So, read the label and go the extra mile to make your household phosphate-free.

-- Paul Fennelly

Three Lakes' Preservation Plan Goes Into Action

Armed with the data and findings furnished by the Cedar Eden lake management study, representatives of the Three Lakes Council met with representatives from the Town of Lewisboro on July 1, 2004 to discuss ways the Town could be helpful in maintaining and preserving our valuable watershed.

Dr. Peter Treyz, Paul Lewis, Ross Weale, Ed Delaney and Tara Owen from the Three Lakes Council met with Town Supervisor Jim Nordgren and Highway Superintendent Peter Ripperger, both of whom listened attentively and thoughtfully to the various recommendations presented. All who attended found the meeting to be very productive... and the Town, with the help of the Council, is already investigating many of the following initiatives to see which can feasibly be put into action.

To mitigate phosphate input into the lakes, the Three Lakes Council recommended the following action steps, some short-term, others longer term:

1. Identify the "worst offenders" among the watershed storm drains and install more robust filtration systems.
 - ✓ Dr. Treyz has learned that The Riverkeeper (an organization very involved in preserving the Hudson River and local watersheds) is interested in doing storm drain research and may even be willing to install and maintain storm drain filters at their own expense. Jim Nordgren agreed to follow up on this enticing lead.
2. Identify and mitigate road-side drains that contribute to siltation of lake channels and streams
3. Contact the County and ask that the Three Lakes storm drains be exempted from methoprene applications (which not only

potentially harm amphibious wildlife, but prevent the Town from cleaning the catch basins).

- ✓ Our drains were not supposed to be subject to these chemicals this year, but politics intervened.
- 4. Establish a watershed sewage and stormwater maintenance district as other communities in New York and Connecticut have done
 - ✓ As part of that process, require that septic systems be maintained/pumped every two years.
- 5. Offer tax incentives to homeowners who install more environmentally effective solid waste systems (e.g., incinerating or composting toilets)
- 6. Institute Town-wide ban on the use of fertilizers with phosphates, starting with commercial lawn services
- 7. Enforce existing and proposed regulations prohibiting clear-cutting in wetland areas and new construction in steeply sloped areas.
- 8. Move forward a Town requirement that septic systems be upgraded to current standards when houses are enlarged by a certain percentage or more (30-50%).
- 9. Longer term, install stormwater treatment facilities in priority locations (e.g., west end of Waccabuc) to detain and cleanse stormwater before it hits the lakes.

Ed Delaney pointed out another source of funding from the DEP (Dept of Environmental Protection) that has long been available to Lewisboro through the 10 Towns Agreement. Apparently, each town has access to \$312,000 to fund watershed improvement programs, plus potential access to an even larger pool if we can successfully prove that Lewisboro is taking the lead regionally in implementing some of these programs. Town Supervisor Jim Nordgren agreed to follow up on this lead as well.

The meeting on July 1 was the first of what we hope will be many such sessions and the start of an effective working relationship with the

Town. The Three Lakes Council intends to stay on top of all these recommendations and will continue to report progress.

-- Tara A. Owen

Lewisboro Gov't Update

The Town of Lewisboro has been hard at work addressing several issues that are of particular interest to Three Lakes residents.

Wetland Ordinance:

After much open and spirited public debate, Lewisboro enacted a new wetland ordinance at the beginning of this year, increasing the regulated buffer to 150 feet. While it certainly affects life on the Three Lakes, many have been struck by how little it changes things.

Many residents were disappointed to learn that the new regulation could not stop a new home from being built on an approved building lot. On the other hand, many who have sought wetland permits have been relieved to discover that they are free to go ahead with their construction and renovation plans.

Bottom line: the impact to existing homeowners will be minor, as advertised. The town's wetland inspector, Jay Fain, has worked with Lewisboro residents for fifteen years and well understands the needs of homeowners, and how these needs can be accommodated without straining our unique natural resources. As regards new development Jay and the Planning Board have the experience and expertise to suggest better methods and better locations for construction. That said, they cannot – in most cases – prevent a property owner from putting up a building on an approved lot.

The story is different on large, undeveloped parcels. Here the 150-foot buffer holds real sway. The new regulation effectively restricts the number of homes that can be built on a given parcel that abuts wetlands, and the entire buffer can normally be

protected, given the flexibility in locating homes that a large parcel affords.

Steep Slope Protection

The same holds for the new proposed steep slope ordinance. Minor additions and renovation projects that will have little impact on already-disturbed sites will be unaffected, but new construction will have to avoid any disturbance of slopes over 15-20%. This is particularly good news for the Three Lakes' watershed, as so much of the surrounding area, particularly to the north and east, is steeply sloped. If these hillsides can remain undisturbed, the vegetation on them can prevent the kind of mudslides that have been occurring just over the border along the West Mountain in Ridgefield.



Keeping our Streets Clean

Good news from the Highway Superintendent Peter Ripperger. Salt use in the Three Lakes watershed was reduced by one-third this past winter. The Town is also cleaning storm basins in the Three Lakes area more frequently, allowing these drains to filter impurities from the stormwater

before they enter our lakes. Moreover, Peter and his foreman Paul Olsen, along with our two building inspectors, have been attending seminars on stormwater pollution prevention. They've taken to heart what they've learned and are applying it in our watershed, to the benefit of us all.

-- Jim Nordgren, Town Supervisor

Looks Can Kill: Invasive Aquatics

Two very aggressive, non-native plants have gained a foothold in the Three Lakes and will crowd out native plants and destroy wildlife habitat unless we contain them. These invasives came to us from other environments -- blown in by the wind or brought in by unwitting gardeners -- and so have no natural enemies here, which allows them to spread unchecked.

The two plants -- purple loosestrife and phragmites (also called common reed) - are on the Nature Conservancy's "dirty dozen" list of exotic species. Both can swallow a wetlands whole, leaving insects, mammals, birds, reptiles and other animals without the diverse ecosystem they need to survive.



Purple Loosestrife

Purple loosestrife was brought into New England from Europe in the early 1800s as an ornamental plant. It is common along roadsides but does most of its damage in wetlands areas. In the Three Lakes, you can find it along the channel between Waccabuc and Oscaleta. It can grow as high as five feet and begins blooming in August.

Its flower makes it seductive to gardeners, but at least 12 states have banned its sale, including Connecticut. Unfortunately, the Valley View nursery in Vista is apparently still selling it. Pass it up.

Also unfortunate is the fact that at least one couple in the Three Lakes community has ignored entreaties to remove loosestrife from their lakefront because they say they like the look of the plant. Their argument that they contain its spread on their property misses the point: each mature plant can produce more than 2 million seeds a year.

Phragmites also likes wetlands. Look for its bamboo-like stalks and fluffy flower along Oscaleta Road on both sides of the Waccabuc/Oscaleta channel and at the Two Lakes Club beach property. Like loosestrife, phragmites spreads rapidly.

"A major goal with invasives is early detection and rapid response," Donna Ellis, a chair of the Invasive Plant Working Group at the University of Connecticut, recently told The Associated Press. "We're really trying to get the public involved and get them to recognize what these plants are."

Both loosestrife and phragmites can be contained by ripping them out by the roots. The task is easy if the plants are removed within a year of their arrival. After that, their strong, thick roots make them extremely difficult to eradicate.

Don't shake the plant as you remove it. If the plant is seeding, bend it over a bag and cut off the flowers before ripping out the stalk. Dispose of the plants in your trashcan. Do not compost! Wash your clothes and garden equipment afterwards. Loosestrife is very attractive to bees. If you can identify it before it flowers, remove it then. Otherwise, you might want to wait until after the petals fall.



Phragmites

Photo: Yale

Finally, to minimize disturbance, replace the invasives with native species. For a list of natives that will help the lakes thrive, visit www.nativeplantcenter.org. To buy seed mixes for buffer planting, you might look at www.newp.com (New England Wetland Plants, Inc.)

-- Keith Eddings

Fishing Report 2004

While we've seen a drop-off in trout activity, a troubling development which bears further investigation, fishing in the Three Lakes is generally very good.

Bass

Bass fishing continues to be excellent in Rippowam, Oscaleta and Waccabuc, with Smallmouths in excess of 4 pounds being reported in Waccabuc. (Two were caught and released recently). Rippowam has also shown significant increases in the number of Smallies over the past two years. Not to be outdone, Oscaleta furnished Max and Isabella Massimo with a 5-plus pound Largemouth bass last month. They had the good fortune to have their camera with them and got some great shots before releasing the whopper. Max said he caught the fish, but rumor has it that perhaps his daughter, Isabella, deserves the credit. GREAT CATCH!

SPECIES	SEASON	SIZE	DAILY LIMIT
Trout (brook, brown rainbow trout)	4/1--10/15	Any size	5
Largemouth / smallmouth bass	6/21--11/30	12 inches	5
Pickereel	5/3--3/15	15 inches	5
Crappie	All year	9 inches	25
Perch / Sunfish	All year	Any size	50
Carp / suckers	All year	Any size	none

Pickereel & Perch

Ron Tetelman has been catching some large pickereel this year in Waccabuc, which is good news as that fishery continues to show improvement. Gene Tedaldi reports that a friend of his scored an excellent catch of White perch in Rippowam while fishing through the ice last winter. Certainly, if you are looking for White perch, Rippowam is your spot; it seems to have the greatest concentration of this species.

Trout

Trout fishing has declined during the past two years, and we are currently investigating the reasons why. Certainly the oxygen depletion noted in the Cedar Eden study is of concern. At the height of summer (generally August), the oxygen depletion occurring from the bottom up can combine with the thermo cline building from the surface down to create a vise that can literally squeeze the life out of trout.

On a happier note, I got an unconfirmed report from Zeke Hunter that someone caught a trout about 20 inches long in Waccabuc last month. And we had enough money (\$1,500) in this year's fish fund to stock about 450 brown trout in Waccabuc and 200

in Oscaleta on June 12. These were 11-inch fish that should grow to be 15-17 inches by this time next year and 3 to 6 pounds the year after.

Fish Fund

Please remember when you pay your Association dues, the first \$50 is automatically earmarked for dues only; any additional money can be designated for the fish fund, if you so indicate. Thanks to all for your support toward this effort, and please keep it up!

Also, keep in mind that fishing licenses are required for anyone over 16 and can be obtained from the Town Clerk, Kathy Cory. Additional information is available on the NYS DEC website:

www.dec.state.ny.us/website/dfwmr/fish/fishregs/index.html

Please take a kid fishing this summer. If you are interested in learning how to fish, would like more information about our stocking program, or would like to know how to contribute to the fish fund, please give me a call at 763-3456.

--Joe Tansey

Clean and Green: Household How-To's

We all have similar goals when it comes to keeping our homes clean. We want to kill germs in our kitchens and bathrooms. We want stain-free, fresh-smelling laundry. We want our glasses to sparkle. The question is: Can we accomplish these objectives without spoiling our lakes *and* possibly our own health? YES!

There are a number of proactive steps that Three Lakes residents can take to maintain a healthy and clean

ecosystem both inside and outside their homes. Below are just a few suggestions, plus references to web sites that can furnish further information. Let's start with priority #1 – septic system management.

1. Save a Septic: Conserve Water

On average, a person uses 60-80 gallons per day. A family of four, therefore, can be expected to generate 240-320 gallons a day of wastewater, placing a huge burden on our old septic systems. Multiply that by the roughly 600 homes in our immediate watershed, and we're flushing 150,000 gallons of wastewater into the lands surrounding our lakes... a day! When you consider the fact that most of our septic systems outlived their useful lives (15-30 years) decades ago, the need for reasonable water conservation measures becomes evident. Here are few ideas:

- a. Check your toilets. On the tank, you'll see the GPF (gallons per flush) rating. If it's 1.6 or lower, great. If not, consider replacing the toilet... or simply wrap a brick in plastic and submerge it in the old tank to displace water.
- b. Upgrade old dishwashers. New dishwashers use less than half the water consumed by machines that are 8 years or older, and they are more energy efficient. New models use 3-6 gallons of water per cycle. Older machines use 8 – 12. Fill the machine before doing a load.
- c. Avoid hand-washing your dishes. Many folks don't know this, but manual dishwashing uses up an extravagant amount of water ... about 5 gallons/minute. You could easily consume 100 gallons of water doing what an efficient dishwasher can do with 3. Save the washing up for the next load.
- d. Buy a front-loading washing machines. Front-loading washing machines beat top-loaders on every measure. They get clothes cleaner using less than half the detergent. They offer extra rinse cycles yet use far less water (25 gallons vs. 45 for the leading U.S. brand) and spin faster removing more moisture for more efficient drying (which saves on



electricity). Some models such as Bosch and Asko use only 7 to 9 gallons of water, according to Albano Appliance. These models could potentially cut the typical family's water consumption by more than 10,000 gallons per year.

- e. Turn off the water while grooming. How many of us leave the faucet running while we brush teeth (3 gallons/minute); shave (4 gallons/minute), or take a shower (10 gallons/minute). It quickly adds up!

Web site: www.westchestergov.com/health/SepticSystem.htm

2. Free Yourself of Phosphates!

The arguments against phosphorus should be self-evident to anyone reading this newsletter. Phosphates kill lakes by depriving them of oxygen. Indeed, they are so harmful, they were banned from household laundry detergents over 25 years ago. Not so with dishwashing detergents, which managed to escape the ban, claiming manufacturing constraints at the time... and lawn fertilizers. Here's what you can do to free yourselves and our lakes from phosphates:

- a. Stock up on phosphate-free dishwashing detergent. Trader Joe's, Amway, and certain health food stores carry phosphate-free dishwashing detergent. It's also available via the Internet at SeventhGeneration.com. If running to the grocery store is the only option, stick with liquid formulations, which are generally lower in phosphorus content. Read the label!
- b. Stop fertilizing with phosphates. Lake communities from California to Minnesota to New York have all rallied against phosphate-rich fertilizers, urging a ban similar to that placed on laundry detergents. Many counties have already enacted one. There are over 10,000 sites on the Internet documenting the ill effects of these lawn care products on the health of delicate lake ecosystems. Ignorance, in this case, is NOT bliss; it's the enemy.

Phosphorus is used in fertilizers to help develop root growth; it is not needed on established lawns. Grass cuttings left by the mower decompose and release their own nitrogen and phosphorus into the soil. That's all our lawns really need.

So, tell your lawn care provider NOT to fertilize. For those who must fertilize, for whatever reason, look for phosphate-free fertilizers. Order early.

Website: www.seventhgeneration.com for information on phosphates... and the full spectrum of ecologically safe and effective household cleaning products

3. Clean with Caution

Even phosphate-free cleaning products can pose health risks. Education is your best defense.

- a. Beware of bleach. Chlorine harms the useful bacteria that help break down solids in your septic. Moreover, it's highly toxic... so much so that the American Public Health Association unanimously passed a resolution urging American industry to stop using it. Poison control centers reported 40,000 household injuries involving chlorine bleach in 1993. Particularly dangerous are the scented varieties, which children try to inhale.
- b. Look out for liquid laundry detergents. Many liquid formulations contain a host of ingredients that can be harmful not only to the environment, but also to your body. Did you know that optical brighteners bind irreversibly to your skin? Synthetic fragrances in dryer sheets can also cause harm. Many laundry detergents are petrochemical-based, which means they do not break down in water. Moreover, they can provoke an allergic reaction, some experts believe. Using products that are plant-based rather than

petrochemical-based is better for the environment and your health... plus, they smell good.

Web site: www.ecover.com and www.oxiclean.com for information on plant-based and biodegradable laundry and household cleaning products.

4. Pass on the Pesticides

Each year, agricultural and private landowners apply more than 500,000 tons of pesticides to their properties. Could there be a correlation between this massive dumping of these bio-engineered agents and the huge increase in asthma, allergies, cancer, cystic fibrosis and autism witnessed over the past 10 years? When we "weed & feed" our lawns, we are not only killing our lakes, but also the earthworms and good bugs that keep our soil healthy. Our kids and pets then track these chemicals into our homes and onto the carpets. Leave the clover and dandelions be, and plant ground covers. The result can be stunning.

Even if your house is not on the lakes, your land feeds them. And your property values rely on their continued health. So, please make the extra effort and shop outside the "mainstream" for these ecologically-friendly products. You will be doing your family and the environment a service.

-- Liz Fryer



Deer, Oh Dear!

If you're one of the hapless homeowners futilely battling the destruction wrought by deer, take heart! You're not alone... and you're not crazy. The deer problem is real, and it *is* getting worse. The New York State Department of Environmental Conservation estimates that between 10,000 and 15,000 deer call Westchester home currently. In fact, there are now more deer in Westchester than when Hendrick Hudson first set sight upon the river named for him.

Deer Damage

- The average deer consumes between 5 and 10 pounds *a day* of foliage.
- Deer damage to agricultural crops in New York is estimated at \$60 million a year according to the New York Farm Bureau.
- Each year, an estimated 60,000 to 70,000 deer-related accidents occur on New York State roads. An average of two people die, and about 1,000 are injured.
- Lyme disease is the leading cause of vector-borne infectious illness in the United States.
- Nearly 24,000 cases of the sometimes very debilitating disease were reported in 2002 to the Centers for Disease Control, a number that experts estimate at one-tenth the actual number of cases.
- 95% of the cases reported to the CDC occurred in the northeastern quadrant of the country.
- A deer tick can also infect you with ehrlichia, babesia or bartonella, making you more sick than Lyme ever could.
- According to Westchester Automated Gate and Salem Fence in Mahopac, deer enclosures run between approximately \$35,000 and \$200,000.
- An estate in North Salem that needed 8,000 linear feet of fencing with multiple gates and automated openers paid \$300,000 to keep out the deer.

Deer Proofing

Fences

- Enclose your yard or garden. Keep in mind, however, that deer can jump 10 feet and local ordinances restrict how high you can build a fence. (Tip: Use cattle grates rather than gates for a more open look).
- Remember to anchor deer netting. Deer are more likely to poke their heads under fencing than jump over a high fence according to Bernard Marquez of Arborscape, Inc., so weigh netting down with stones.

Plant deer-resistant plants.

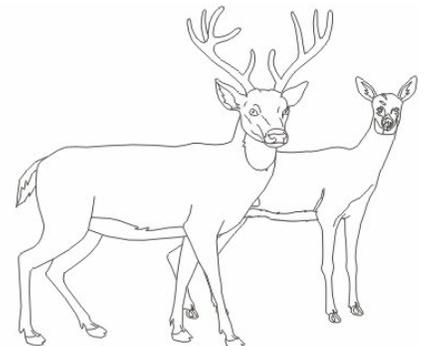
- The key word is *resistant* – nothing is deer proof. Deer's tastes change over time (whitetails used to turn up their noses at rhododendrons, azaleas and hollies, but no more!)
- List every weed, wildflower, shrub and tree that deer leave untouched, and then look them up in Hortus [a reference book that inventories all the species and botanical varieties of garden plants grown in the U.S. and Canada] to identify all other members in the same family.
- For example, knowing that deer rejected wild mustard in her garden, Karen Jescavage-Bernard, author of *Gardening in Deer Country*, grew other members of the spicy mustard family -- annual and perennial alyssum, dame's rocker, money plant, nasturtium and rock cress -- with complete success.

Deer don't like plants with strong aromas, and those with fuzzy leaves are hard to swallow - but the sharp stuff, like thorns, doesn't stop them. They particularly dislike lemony, minty or sagey smells, so herb gardens are a possibility.

- Any plant with "bane" in its name means it was once used for medicinal purposes, or is poison, and is a strong candidate.

Sprays & Other Deer Deterrents

- Three spray products are effective in areas with light deer pressure, but using a combination on a typical two-acre property can run \$600 to \$1,200 a year
 1. *Chew Not*, a taste repellent that lasts about 90 days, unfortunately turns plant chalky white.
 2. *Deer Off*, a clear taste and odor repellent, lasts 30 to 80 days, depending on weather.
 3. *Hinder*, a soap-based product that is effective for two to four weeks, is used as a short-term treatment to keep deer off new growth in spring until they return to the forest to forage.
- Less expensive home remedies include eggs mixed in water, garlic oil, hot pepper wax, locks or human hair or fragrant soaps interspersed in greenery. Results are mixed.
- Whatever you apply to your flowers and vegetables, spray from *underneath* the plant advises Bernard Marquez. That way, it's less likely to wash off with the first rain.
- Yardi.com sells hanging dispensers filled with coyote or bobcat urine at \$16.95 for an eight-ounce bottle.
- With commercial brands like Bobbex, wear gloves and mask. The reason it's so effective is because it's made from slaughterhouse waste.
- Milorganite, a processed human-waste product, is also effective in



detering deer... but the stench can be equally offensive to humans... and is best used away from the house and children's play areas. Moreover, some dogs will eat milorganite and can get sick afterward.

Hunting

- Westchester allows archery hunting from November 1 to December 31, and hunters may take up to four deer with permits available for additional deer without antlers. As a prey species, deer have a high reproductive capacity. The New York Department of Environmental Conservation says that does can go into heat twice a year. A 10 year-old doe could have between 15 and 30 offspring throughout her life.
- Relatively speaking, only a small number of deer are killed by hunters each year... 1,633 in 2003 vs. 1,658 in 2002. The New York Farm Bureau is supporting an act to amend the environmental conservation law to increase the number of antler-less deer that can be harvested.

Deer Don'ts

- Don't assume a newborn fawn is orphaned if left alone. When born, fawns have no scent. Their moms leave them someplace safe and watch from a distance, so *their* scent doesn't attract predators. Fawns intuitively know to stay still and wait. Don't interfere.
- Don't feed the deer. All experts agree on one thing: Deer should be reliant on their own habitat for food. Moreover, it is now illegal in New York State to feed them. Communal feeding is not natural for deer and can lead to chronic wasting disease.

Source: Nancy Claus Giles, "Oh Deer!" *Westchester Magazine*, May 2004.

EDITORIAL

Hemlocks: Take a Stand

If you have hemlocks and haven't been treating them to control the woolly adelgid, then this parasite is almost certainly devouring your trees. See for yourself: turn over the needles on a branch and look for tiny, white, cottony clusters -- the cocoon that the bug forms around itself. If you find the bug, you're just a few years or less from losing all your hemlocks, and you're infecting your neighbors' trees. The Three Lakes has lost dozens of hemlocks, including many specimen trees, since the woolly adelgid arrived here in the early 1990s.

Treatments are highly effective and, in the end, could be cheaper than removing your trees when they die. Most trees can be treated by spraying a non-toxic horticultural oil that smothers the adelgid, but is otherwise largely benign. It kills by suffocating, not by poisoning. Larger trees, or those too close to a lake to spray, are treated with soil injections.

The spray and injections are the only approved treatments for the adelgid, which is an exotic species from Japan. The alternative -- doing nothing -- will do far more damage to the ecology of the lakes. As do all the trees in our yards, the hemlocks slow erosion and absorb runoff, providing a natural buffer between the lakes and the nutrients that drain from our septic systems, lawns and driveways.

A ladybug that has kept the adelgid in check in Japan has been established at several sites in Westchester, Putnam and Fairfield counties by state environmental officials in New York and CT. The ladybug will spread here, although it will take a few years. In the meantime, working as a neighborhood to save our hemlocks will keep them standing until the ladybug arrives.

The treatments can only be applied by licensed arborists, so check the Yellow Pages.

-- Keith Eddings

CASE STUDY

My Waterloo: News from the Septic Repair Front

I knew when I saw the raw sewage spilling over the top of my septic tank and onto the driveway that I had a problem. My septic system was in gross failure... the operative word being "gross." We had long since instituted radical septic-saving measures in my house... only full loads of laundry, showers only when co-workers or friends commented on the stench, no flushing for #1 ... and no paper products of any kind in the toilet. But they weren't enough. We had to go in.

My first call was to neighbor, friend and public health guru, Ed Delaney, who taunted me mercilessly and then gave me the name of several licensed New York state septic contractors. (Note: you are required by law to work with a state-licensed contractor). And my research began.

The first step was to figure out why the tank was not evacuating. Four seasoned experts provided me with the assessment that the line leading out of the tank must be clogged. So we started digging and pumping and jetting... to no avail. We then headed for the fields... and started digging anew. Unfortunately, it soon became clear that there would be no quick fix for the Owen household.

So I brought in the big boys -- All-Pro Rooter -- and watched my lawn and gardens go under the knife. They brought a back hoe in over the wall and dug a wide trench. (The first happy news of the day was I have great soil). They then ripped out the tank -- a corroded hulk of metal circa 1939 -- and installed a new PVC plastic tank equipped with a system known as -- I kid you not -- the White Knight microbial inoculator/generator.

My reaction was similar to yours. Oh, please! But several months into this system, I have to give it some grudging credit. It's essentially a basket of aerobic bacteria that you hang in

your tank... and a pump that sits outside.

The pump runs water through this colony of IOS-500™ bacteria, and these little buggers eat up the organic sludge in the tank and aerate the resulting liquid. Then this fresh-smelling liquid heads out to the fields and re-opens the pores in the soil, allegedly regenerating the fields... a big bonus when you live on a quarter acre of land and can't relocate depleted fields.

Too good to be true? Only time will tell, but it does come with a lifetime warranty... and the "sticker shock" was not too debilitating. The

contractors were in and out in a day, and it cost me under \$5,000. I had been prepared for far worse.

I offer my experience not to sell this particular system but to make an example of myself as someone who deferred needed septic repairs only to discover that they were not as impossible or expensive as I had thought. There is help out there!

For further information vetted by the EPA, check out www.epa.gov/region1/assistance/ceit_iti/tech_cos/knighttreatment.html. To read more about the system and how it works, I encourage you to do your own research at www.knighttreatmentsystems.com.

Three caveats: 1) The system cannot be installed everywhere. Your water table cannot be near the surface, and you have to have a watertight tank. 2) While you will not have to pump any more, the system requires about \$200 worth of annual maintenance. 3) The system doesn't remove phosphorus from your effluent. To effectively reduce phosphorus, new incinerating or composting toilets are your best bet. Information on these toilets and their costs will be available in the septic survey form we will circulate later this summer.

-- Tara A. Owen

News & Notes

Methoprene in Storm Drains

Early this spring, Dr. Peter Treyz learned that the Westchester County Health Department was putting Methoprene in storm drains throughout the county to kill the larvae of mosquitoes carrying the West Nile Virus.

Since some scientists suspect that Methoprene causes deformities in amphibians and reptiles, Pete sounded an alarm at the May 13th meeting of the Three Lakes Council. The very next day, Paul Passidomo of Perch Bay and Jean Lewis and Bobbi Terman of Twin Lakes spotted County cars carrying the Mosquito Control Team. We informed them of our concerns and their boss, George Vasalekos, quickly dispatched two Public Health Sanitarians to the Lewis' house to discuss the matter.

One, a Lewisboro resident, who currently serves on the Zoning Board of Appeals and is a past member of the Conservation Advisory Council, was especially aware of our concern for the lakes. Our intervention came too late in the process to halt treatment of most of our sensitive drains for this year. However, they agreed not to treat the ones they had not gotten to, including drains along Twin Lakes Road. These will be monitored throughout the summer for evidence of mosquitoes carrying the virus. (Not all mosquitoes carry the West Nile Virus).

The County is grateful to have our recently developed storm drain maps and has committed to working with us in 2005 and beyond to make intelligent decisions regarding mosquito control.

Peach Lake Wastewater Study

According to the recently commissioned Peach Lake Wastewater Study, a \$19.3 million sewer system is the only solution to the rapidly declining quality of the lake, which straddles Westchester and Putnam counties. "Installation of a sewer system around Peach Lake is necessary to not only stem the lake quality decline but, more importantly, to protect the residents from health risks associated with

exposure to inadequately treated or untreated wastewater. No other option will provide a long term and effective solution to this critical problem," concludes the report's executive summary.

Mains, pumps, a treatment plant and other equipment could cost homeowners up to \$2,500 a year for 30 years. Annual operating and maintenance costs could run about \$550 year for each homeowner.¹

Like Peach Lake, ours is also a densely populated, former summer community where homes sit on small lots with their wells and septic systems close together. We should heed this cautionary tale and help in the septic survey process later this summer.

Septic Tank Pumping Discount

Once again, we've organized a 20% discount with Kaiser Battistone on septic tank pump-outs. Please call Mimi Shane at 763-6564 to take advantage of this group rate

THREE LAKES COUNCIL NEWSLETTER COMMITTEE

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¹ Michael Risinit, "Sewer Would Fix Peach Lake's Troubled Waters, Report Says," *The Journal-News*, May 16, 2004

