On-Site Wastewater Disposal Systems Testing Summary Report Eagle Lake, Essex County, NY

NYS Department of State Grant # T005770

Prepared for
New York State Department of State
Division of Coastal Resources
41 State Street
Albany, NY 12231-0001 USA

Prepared by
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Reviewed by
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Ticonderoga Code Enforcement Officer

March 2000

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Overview

This report details the findings of the on-site wastewater disposal systems testing program of shoreline properties completed during the Summer of 1999 at Eagle Lake, Essex County, NY. Its purpose was to prove conclusively that nutrients from lakeshore residential septic systems were not getting into the lake and causing or adding to the prolific growth of the non-native nuisance aquatic plant Eurasion watermilfoil, as speculated by some individuals. An inventory and analysis of the on-site wastewater disposal systems, including their locations and conditions, is included in this summary as stipulated by the NYS DOS Grant requirements.

Project Setting and Background Information

Eagle Lake is a 420 acre lake located in the southern part of Essex County, New York between Lake Champlain and Paradox Lake, north of Schroon Lake (Figure 1). It is 3 1/3 miles long and a 1/2 mile wide forming a boundary between the townships of Ticonderoga and Crown Point. New York State Route 74 divides the lake into a larger eastern and a smaller western basin. Its mean depth is 20 feet (maximum depth is only 43 feet) and it has three islands, one of which is inhabited (Figure 2). The State has an unmanned, boat access only park in the eastern section and a public boat launch in the western section. The lake is predominantly spring fed with no other major sources of water entering the lake. Drainage from the lake is at a dam-controlled spillway at the western end.

Eurasion watermilfoil (Myriophyllum spicatum) was informally identified as being present in Eagle Lake as early as 1982, with official confirmation being made in 1987, and since then the plant has rapidly spread throughout the littoral zone of the lake. Some individuals speculated that additional nutrients leaking into the lake from shoreline septic systems caused such rapid plant growth to occur. Despite its decades of testing for total coliform bacteria levels at various locations throughout the lake, the consistent near zero levels of the detectable bacteria obtained by the Eagle Lake Properties Owners, Inc (ELPOI) still needed to be confirmed/supported by a thorough testing of the local residential septic systems. This testing would eliminate any doubts about the possibility of the septic systems being a source of nutrients for enhanced milfoil growth.

Figure 1

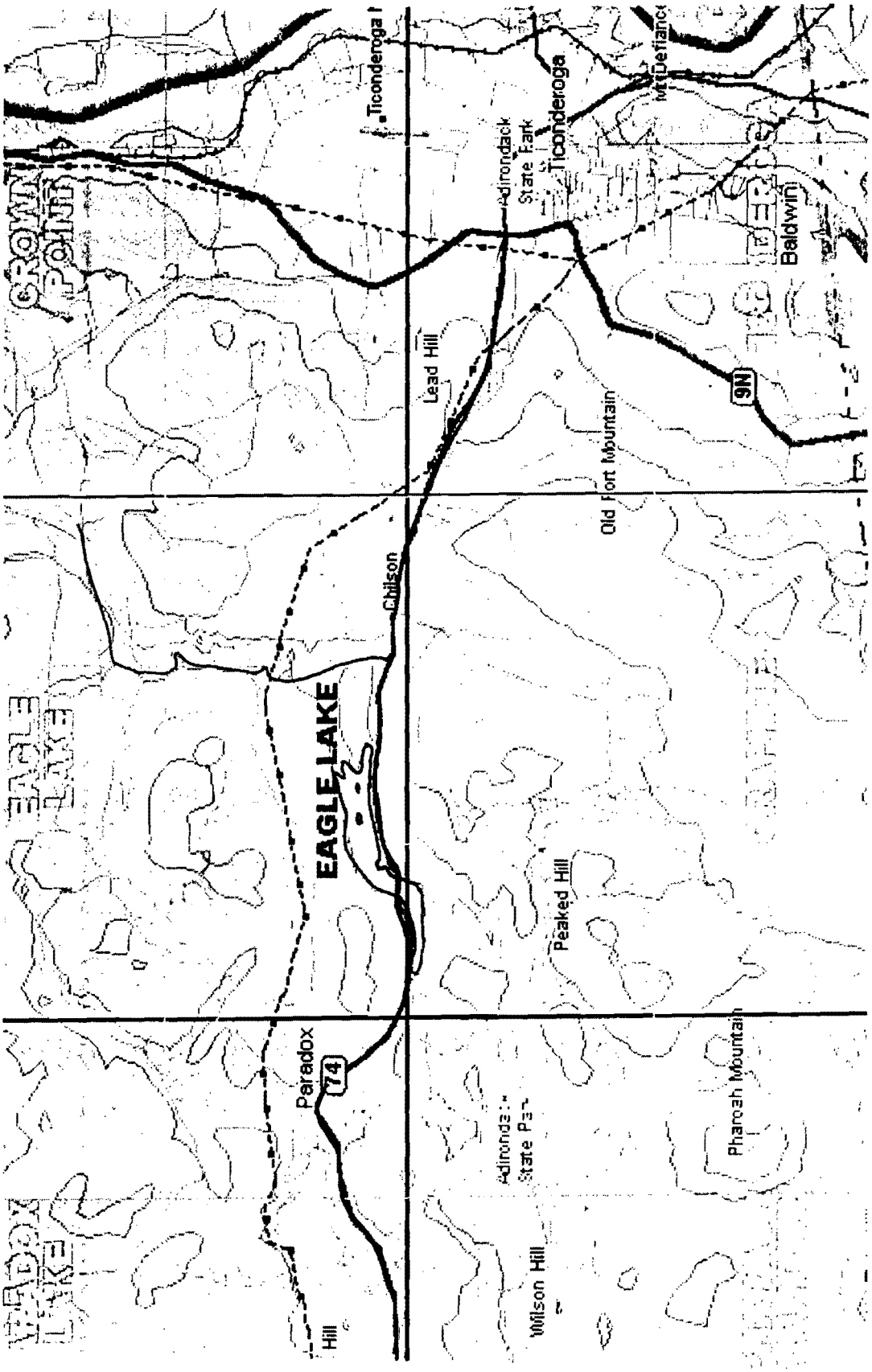
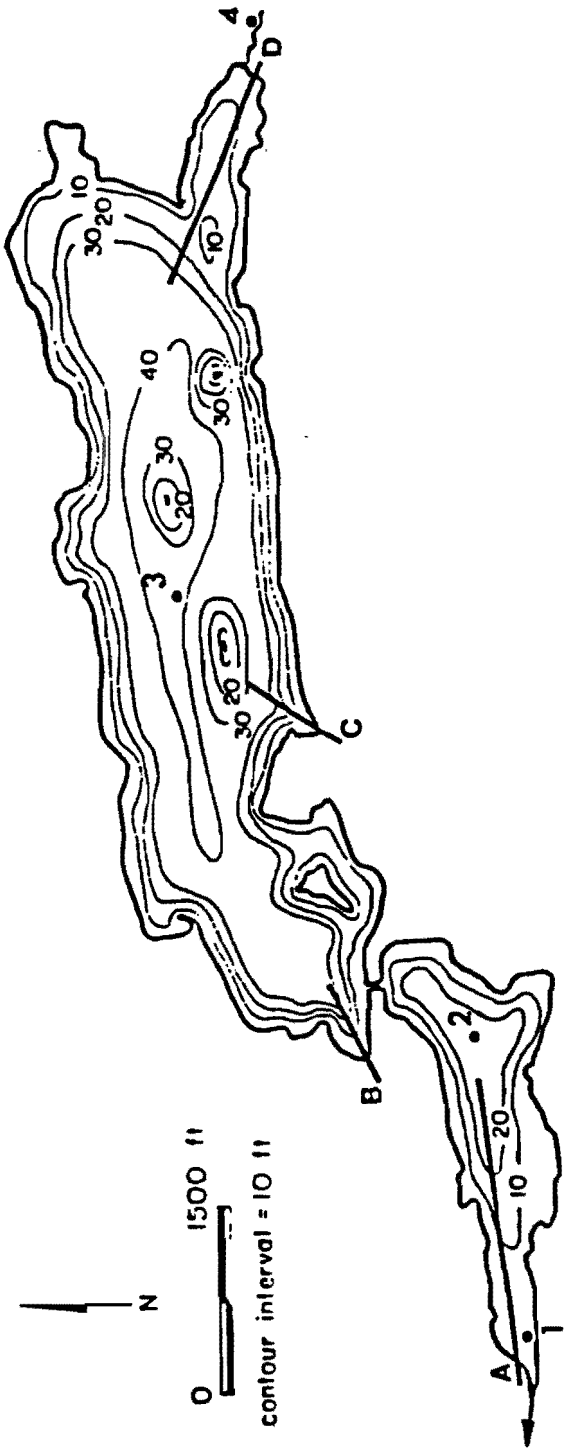

CROWN POINT
Ticonderoga
Lead Hill
Adirondack State Park
Ticonderoga
Mt Defiance
Baldwin
9N
Old Fort Mountain
EAGLE LAKE
Chilson
Peaked Hill
Paradox
74
Adirondack State Park
Wilson Hill
Pharoah Mountain
Hill

Figure 2


4
D
10
30
20
10
40
30
30
20
3
20
30
C
B
2
20
10
1
A
N
0
1500 ft
contour interval = 10 ft

Proposed Action

With the support and cooperation of its membership, the ELPOI proposed that a voluntary septic dye testing program be conducted at each lake shore residence. Working in conjunction with the Town of Ticonderoga's Code Enforcement Officer on behalf of both the Town of Ticonderoga and Town of Crown Point, an on-site dye test and septic system inspection would be conducted at each residence. Formal notification of the test results would be given to both the property owner and the town in which the property was located. Should any system be found to be deficient, the property owner would be given both some latitude and assistance by the Town of Ticonderoga in order to correct the problem(s) in a timely manner.

Course of Action

To meet the goals of the proposed action plan Rolf Tiedemann and Jim Davis of the ELPOI Weed & Pollution Control Committee and Wendy Davis and Dianne Tiedemann of the ELPOI Education Committee prepared and sent out an information letter to all identified property owners around the lake (Appendix). (The ELPOI actively maintains a list and map of current property owners around the lake, the "list" however is not included in the Appendix for reasons of privacy.) The letter informed the membership of the proposed plan to conduct a voluntary septic dye test on their septic systems and engage their cooperation early on in this action. Enclosed with this letter was their initial copy of the Waste Water Management Survey form, generated by Rolf Tiedemann (Appendix). With the NYS DOS Grant secured and in hand, an additional informative and action oriented mailing was sent to the membership. This June 21, 1999 ELPOI Update Letter (Appendix) formally requested the completion of its enclosed revised Waste Water Management Survey form (Appendix) by all remaining members that had not yet done so. Also included with this update letter was a letter to the membership from Town of Ticonderoga's Code Enforcement Officer Wayne Wagner (Appendix). His letter presented the level of cooperation that there would be between his department and the ELPOI membership in striving to make this project a success. Between the times that these letters were sent out, Annual Membership and Board of Directors meetings were held where discussions on what the procedures for the testing would look like took place and agreed upon.

As the completed surveys were returned, Rolf Tiedemann, Paul Burroughs, Wayne Wagner and Mark Bennett (Wayne's summer intern), prepared to complete the necessary training to be able to administer the actual dye test. The Department of Health was consulted as to the specific protocols needed for the dye testing. Next individual property owners were contacted to setup a testing appointment. Once scheduled, one of the above testers would make a site visit to perform the following tasks. They would first review the content of the Waste Water Management Survey form and its corresponding sketch of the septic system layout for accuracy. If the survey was not complete they would work with the property owner to secure as much information as the homeowner knew. Next they would administer one heaping teaspoon of dye to the system, wait the required one hour time frame and then make the first check for the presence of dye at the ground's surface. While waiting for the dye to go through the system, the tester provided the home owners who were interested with three educational brochures (Appendix) regarding septic systems in general. Once it was determined that dye had not been detected after the initial one hour period, the individuals would schedule a return visit to the property within 24 – 48 hours for a second check for the presence of dye at the ground's surface or in the lake water. It then became the responsibility of the homeowner to check over the next two to three days for any signs of dye and report any such findings to one of the testers. All test results were then sent on to Wayne Wagner's office for recording and filing. The ELPOI Lot Location Map was updated to show the locations of system test results (Appendix). A formal letter from Mr. Wagner stating the test results was then sent to the individual property owner for their records (Appendix).

Wastewater Disposal Systems Dye Testing Results

After consulting and updating the ELPOI membership property map and membership listing, as well as the tax maps for the towns of Ticonderoga and Crown Point, it was determined that there were a total 90 properties that immediately surround the Eagle Lake basin. Out of these 90 properties a total of 62 properties were actually tested. Of the remaining untested 28 properties, 14 properties required no testing at all due to either the presence of only an outhouse (3 sites) or no structures at all (11 sites). Eight property owners were unable to be contacted to gain permission to test their systems, 3 property owners refused access to their systems and 3 properties/structures were unoccupied.

Of the 62 properties tested, only two inadequate systems were detected, each by the individual homeowner, and each prior to the actual dye test. Neither of these two systems produced signs of dye in the lake itself. Corrective measures have since been taken by both property owners to correct their systems and both have subsequently passed re-testing.

Roughly 82% of the parcels that could have been tested were tested and 100% of them passed.

Conclusion

The ELPOI needed to demonstrate that nutrients from lakeshore septic systems were not getting into Eagle Lake and causing or adding to the prolific growth of the non-native nuisance aquatic plant Eurasion watermilfoil, as speculated by some individuals. Better than 80 % of the septic systems on Eagle Lake were voluntarily tested and 100 % of those systems showed no evidence of producing nutrient contamination in Eagle Lake. These results support decades of ELPOI test results of near zero levels of the detectable total fecal coliform bacteria and should now confirm that septic system nutrients are not causing or adding to the prolific growth of Eurasion watermilfoil.

Meeting of the ELPOI Volunteer In-Kind Service Requirements

The ELPOI, working in collaboration with Mr. Wayne Wagner and his staff members, is responsible for three individuals performing a minimum of 150 hours of volunteer in-kind services. These service hours were valued at a rate of $10/hour for a total of $1,500 worth of in-kind services.

To meet this goal and simultaneously complete the septic dye test program, the following documents were generated and services performed:

1. Updated the ELPOI Lot Location Map and Membership Roster to include previously unidentified parcels and changes in ownership.

2. Completed the initial draft, along with several Board approved revisions, of the July 1, 1996 ELPOI Letter to Membership.

3. Drafted and revised the initial ELPOI Wastewater Management Survey Form.

4. Duplicated and mailed the July 1, 1996 ELPOI Letter to Membership, including the initial ELPOI Wastewater Management Survey Form.

5. Collected and compiled the returned survey forms generated as a result of the July 1, 1996 ELPOI membership letter mailing.

6. Held meeting in July 1996 with ELPOI membership to inform the members of the proposal to obtain a DOS Grant.

7. Held meeting in July 1997 with ELPOI membership to continue planning for the proposed voluntary septic dye test program.

8. Held meeting in July 1998 with ELPOI membership to continue planning for the proposed voluntary septic dye test program.

9. Met with Mr. Wagner to discuss procedures to complete the dye test project.

10. Prepared paperwork to file for DOS Grant Extension with Crown Point Supervisor Dale French, March 1999.

11. Revised the ELPOI Wastewater Management Survey Form for inclusion in the June 21, 1999 ELPOI UPDATE LETTER membership mailing.

12. Consulted with Mr. Wagner to draft and review his "Town of Ticonderoga Code Enforcement Officer Dye Test Performance" letter to the Eagle Lake Property Owners, for inclusion in the June 21, 1999 ELPOI UPDATE LETTER membership mailing.

13. Completed second update of the ELPOI Lot Location Map and Membership Roster to include all newly unidentified parcels and changes in ownership.

14. Drafted, along with several Board approved revisions, the June 21, 1999 ELPOI UPDATE LETTER, and its enclosed supplemental letter and survey form.

15. Duplicated and mailed the June 21, 1999 ELPOI UPDATE LETTER to the membership.

16. Collected and compiled the completed returned survey forms generated as a result of the June 21, 1999 ELPOI UPDATE LETTER membership mailing.

17. Held meeting in July 1999 with ELPOI membership to discuss final plans regarding the upcoming septic dye testing and to start scheduling testing appointments.

18. Worked with Mr. Wagner on the final plans for testing and the training for the testers.

19. On going phone calls were made to schedule dye test appointments.

20. Conducted initial 1 hour and final 24 – 48 hour follow up review of 62 of the 74 identified systems in need of testing.

21. Completed a final update of the ELPOI Lot Location Map and Membership Roster to include all previously unidentified parcels, changes in ownership, and the owner's dye test results as necessary.

22. Worked with Mr. Wagner to complete all paperwork related to this project, including the formal letter notification of property owners as to their dye testing results.

23. Drafted, revised and duplicated the final DOS Grant Testing Summary Report, working in conjunction with Mr. Wagner.

Meeting of the Ticonderoga Code Enforcement Office Volunteer In-Kind Service Requirements

Mr. Wayne Wagner, Code Enforcement Officer for the Town of Ticonderoga, and his staff, working in collaboration with the ELPOI, provided at a minimum these and many other services towards his commitment to the DOS Grant. Mr. Wagner's services were valued at $2,000.

To meet this goal and simultaneously complete the septic dye test program, the following documents were generated and services performed:

1. Initial contact was made between Mr. Wagner and ELPOI's Mr. Rolf Tiedemann to discuss procedures for the upcoming septic dye test project.

2. Consulted both the Ticonderoga and Crown Point property maps to identify the current owners of property bordering Eagle Lake.

3. Consulted both Ticonderoga and Crown Point tax rolls to assign tax numbers to those properties.

4. Drafted and revised the Town of Ticonderoga Code Enforcement Officer Dye Test Performance Letter to all Eagle Lake Property Owners, for inclusion in the June 21, 1999 ELPOI UPDATE LETTER membership mailing.

5. Consulted with the NYS Dept. of Health on dye testing protocols.

6. Checked with local out reach groups to see if help would be made available to property owners with failing systems.

7. Met with Mr. Tiedemann to discuss and finalize testing procedures.

8. Performed training of individual testers in testing protocols.

9. Reviewed all documents to be sent out for technical content and accuracy.

10. Collected completed surveys, both pre and post testing.

11. Assigned tax numbers to Wastewater Management Survey Forms.

12. Dye Tested selected systems on Eagle Lake.

13. Worked with homeowners of failed systems for design of corrective measures.

14. Monitored corrections to failed systems.

15. Performed follow up testing to failed systems.

16. Trained summer intern Mr. Mark Bennett in computer use for generating adequacy letters.

17. Prepared adequacy letter with review by the town.

18. Generated individual property owner adequacy letters.

19. Mailed the individual property owner adequacy letters.

20. Filed letters and surveys for each property in the Ticonderoga Code Enforcement Office.

21. Distributed information to Crown Point for filing in their office, as necessary, due to overlap of town coverage.

APPENDIX

DOS GRANT SUPPORTING DOCUMENTS
"LETTERS, FORMS AND MAPS"

Eagle Lake Properties Owners Inc.

July 1, 1996

Dear Friends and Neighbors,

This letter is to update you as to what will be happening this coming Summer and later this year. As you read in the Spring '96 Newsletter, a lot has happened since last Fall. Here is a brief summary for those of you who might not have seen the newsletter.

Last Fall the Coalition of Lakes Against Milfoil (COLAM) and the NYS Department of Environmental Conservation (DEC) formed a partnership to develop a "Pilot Program" to demonstrate the use of the herbicide Sonar on two Adirondack lakes. Eagle lake was chosen as the site for a whole lake treatment and Lake George was chosen as the site for spot treatments. With the implementation of the Pilot Program on Eagle Lake, funding is being sought. One of the promising resources for this funding is a NYS Department of State "Waterfront Revitalization Grant". With funds from this grant the lake association will be able to treat the milfoil problem (Task#1) as well as initiate 2 other tasks.

COLAM and the Eagle Lake Properties Owners , Inc. have gained the cooperation of both the NYS DEC and the Adirondack Park Agency (APA) to treat our milfoil problem in exchange for the cooperation of the property owners around the lake. What does this mean? Well, plain and simple, we will get our Sonar treatment done at little, if any, cost to us as property owners in exchange for our help on the rest of the related tasks. The Waterfront Revitalization Grant Application was specifically written for funding the Sonar treatment but in order to qualify for the Grant, we have to demonstrate that we are willing to look at possible pollution causes that are relate to the main problem. As an organization we have been talking about how to deal with two related projects. These projects are the potential pollution of Eagle Lake from storm water run off and septic systems. Funding has been included in the grant to work on these two projects.

Since there is still no approved State budget as of this letter, the grant proposal is still being reviewed. We have been advised by the Department of State to be "highly optimistic" that our project will be funded because our proposal is considered to be a very good investment for the future of New York State.

As we all know, over the years we have been doing water testing to monitor fecal coliform count and road run off. Although the fecal results have been excellent for the last few years, we still have a weed problem. In the past people believed that if you cleaned up your septic systems the weed problem would disappear. Since our lake wide water testing results suggest otherwise, with the help of the NYS DOS grant we hope to document once and for all that this is a false assumption. We have the opportunity to take the water testing one step further and show without a doubt that it is not our septic systems. So we ask for your help to prove this.

We have 3 tasks to accomplish related to the Grant. Some tasks will need volunteers, some will ask for everyone's full cooperation and may unfortunately result in what some would feel to be an invasion of their privacy, while other tasks will be handled by experts in the field. Below we have described the tasks, and where needed, appealed for your help and cooperation.

Task #1 will be the development and carrying out of a Milfoil Management Program through the Pilot Program. Volunteers will be needed to continue the water testing that has been done throughout the past several years. Jim Davis, Rolf Tiedemann and Paul Burroughs, along with the help of others, have been taking water samples on a regular basis.

Task #2 will be the development of a Storm water Management Plan along Route 74. With the assistance and guidance of 2 engineers from International Paper Company, provided to us at no cost through a Community Outreach Program, storm water samples will be taken at 3 locations on the lake. The engineers have requested our help in assuring the samples are taken in a timely manner. They will train volunteers as to how and when samples need to be done. Volunteers are again needed! Do you have some time available, especially during or after a rainstorm, please call Jim or Rolf.

As has been suggested by letters received from the Freshwater Institute for many years now, run off from this road is the #1 source of potential harmful pollutants to the lake. The result of this task will be the development of a management plan to help deal with the run off when the designing of the Route 74 Reconstruction Project is carried out by NYS in the future.

Task #3 will be the development of a Wastewater Management Program. This task is the one that each and every one of us needs to be and can be active and cooperative in initiating. With the assistance of Wayne Wagner, Building Inspector for the Town of Ticonderoga, a map detailing the wastewater systems around the lake will be developed. From this map a systematic testing strategy will be developed and carried out to test septic systems around the lake. A plan will be developed to correct systems (if any) that are in need of improvement. Financial assistance will be sought to help any of us who have difficulty in correcting our systems.

Although this is the task that will be the most difficult one to accomplish due to the short amount of time many families get to spend at the lake, we must ask you for your cooperation on this to insure funding for the whole program. Yes, the milfoil treatment could be in jeopardy if a "reasonable" amount of information is not gained by this task. Even though this task may be a large one, with each of us helping out to do our small part, we can indeed accomplish our goals and receive the necessary funding to accomplish them as well.

The quality of Eagle Lake continues to be foremost on the minds of each of us who live on or around the the lake. The protection of the lake environment in essence protects our hard earned investments for future generations to come. As we proceed through the last of the 20th century we must do what we can as individuals and as a team to protect what we have and love. In doing so the 21st century will hold a promise of excellence.

•••Enclosed Survey Instructions

We ask that you take the time now to fill out the enclosed form(s), one for each parcel owned, to the best of your ability and knowledge. If you do not know some of the information we will work with you to find it out on the date you indicate, on the survey, you are available for testing and inspection. Please do not be concerned with the quality of your sketch, we will redraw it if necessary. We need from you at this time as much of the information as you know and can provide. Please return all of the parts of the completed survey by July 20th to the address listed below. You will then be contacted for your permission to review your system at your convenience. We hope we can complete much of this task by summer's end. When the task is fully completed you will be provided with a copy of the information for your records.

Once again thank you for your help and cooperation in restoring and preserving our lake for all of us and for our future generations.

Sincerely,

Jim Davis (518) 585-6686
Rolf Tiedemann (518) 597-3618 July 3rd - Sept 1st
Weed & Pollution Control Committee

Wendy Davis
Dianne Tiedemann
Education Committee

Return enclosed forms to:
Jim Davis
Eagle Lake
HC-01 Box 112-A
Ticonderoga, NY 12883-9410

Enclosure: Waste Water Management Survey

Waste Water Management Survey
Conducted at *Eagle Lake, Essex County, NY*

Dates available for testing and inspection _____

Personal Data

Property Owner _____ (First / Last)	ELPOI map location # _____
Occupants Name _____ (First / Last)	Today's date _____
Phone # _____ (Eagle Lake)	Phone # _____ (Home)
Owner's mailing address _____ (No. / Street / PO Box /Etc.) _____ (City / State / Zip Code)	

Site Data (see page 2)

Structure Data

Structure Occupancy • Year round (Circle choice) • Seasonal • Approximate # of days _____		Waste water system installation date _____
No. of bedrooms_____	No. of toilets_____	Gallons/ flush ___@1.5,___@3.0,___ @5.0

Type of Waste Water System?

- Septic tank (circle if yes) • # of tanks_____ • Tank material_____ (Concrete, Plastic, etc) • Total gallons_____
- Leach field (circle if yes) • Type_____ (Trenched, Raised, Gravel pit, etc) • Size_____
- Additional info./ Other systems_____

ie. Dry well, Holding tank only, Composting toilets, Separate gray water, Out house, etc.

Last Pump Date _____	Other Maintenance/ Modifications _____

Dye Test Information

Dye test date_____	Dye color _____	Dye amount_____	Applicator_____
Observation date_____	Observation results_____		Observer_____
Past weeks rainfall_____	Property owner results notification date_____		Notifier_____ Notification Method_____

Notes /Recommendations

_____

_____

_____

File: ELPOI Secretary Records, Surveys Boats/ Water, Waste Water Suv 96

Site Data Description

Rain water/ gutter drain provision _____

_____

Site erosion control towards lake ie. Berms, Vegetation, Rip-rap, Etc. _____

_____

Fertilizer use within 500 ft of lake (Yes or No) circle amount used _____

_____

In the space below sketch, to rough scale, the waste water system layout at your property. Show the foot print of the house, location of the house with respect to the lake, your drive way, and where applicable the main road, rough property lines if within 500 ft of system parts, location of holding/ septic tank, distribution box and leach field. Label parts for clarity of identification. Include on the sketch any other information that applies to the waste water disposal system. Such as separate gray water systems and storm water run off disposal methods.

Do the best you can with the sketch, we will redraw it as necessary when your system is reviewed. Please fill out as much info. as possible, some of it is better then none, and will get the project started. Try to return the form to; **Jim Davis, Eagle Lake, HC-01 Box 112-A, Ticonderoga, NY 12883-9410** by July 20th, late forms will be accepted.

-NOTE- The DEC has issued a NO OPEN BURNING order due to the dry conditions; this includes campfires and trash.

Eagle Lake Properties Owners, Inc.

UPDATE LETTER

June 21, 1999

Dear Eagle Lake Property Owner:

Time has passed quickly since we were last in touch. We hope that the March newsletter reached you. (Some individuals may not have received their letter due to a change in their mailing address, please be sure to forward any changes on to Lloyd Burroughs.) In addition to the newsletter, with its attached pledge letter, you should have received the annual membership renewal notice and annual meeting/picnic letter (meeting starts @ 10:00; picnic starts @ noon; on July 10th). If you didn't receive these mailings please contact Lloyd Burroughs @ (518) 585-7277 for a replacement copy.

By now we hope you have had the opportunity to read the newsletter and have made an effort to *write the listed representatives* to express your concerns and desire to bring the pilot project to completion. *They KNOW we have asked you to write to them stating that you support the project! Now is the time to do so if you haven't already! A low response will not speak well for the project.* We truly appreciate your efforts on this matter. Please be sure to mail a copy of those letters to Lloyd Burroughs for our records. *In case you haven't taken the time to respond to the pledge request, please do so now.* It is vitally important to hear from you, whatever your pledge decision may be. Again, the number of supporters as well as the collective dollar amount pledged is very important. *Whatever amount you pledge, be comfortable with it and know that it is truly appreciated.*

Since our last correspondence a number of small but important discussions have occurred with regards to the following items;

Department of State Water Front Revitalization Grant and Septic Dye Testing

This grant needed to be renewed for 1999-2000 and that has been taken care of. The grant is worth $15,000 towards the Sonar permit and application process. In order for us to receive this money, we as property owners need to provide some in-kind services. Part of our in-kind services will be the performance of septic dye testing on our residences, scheduled for completion this summer. Wayne Wagner of the Town of Ti's Building Department is ready to help assist us with the voluntary septic dye test project. Completion of this project will allow us access to the funds that are covered in the Department of State Grant. Attached to this Update Letter is a letter from Wayne describing the process and how our Association will be involved. Please take a moment to help move along this important part of the project along by filling out and returning the survey that is attached to Wayne's letter. Wayne, or one of several Association members that are working with him, will contact you in the next several weeks to schedule an appointment for the actual application of the dye and the follow up observations. We hope we can gain everyone's support on this project. We need to see this through.

Politician Contact

Mike Connery, Dale French, Senator Stafford, Assemblywoman Elizabeth O'C. Little and various people at the DEC have all been contacted with regards to the current status of the project. Everyone has promised to help to whatever extent they can. Senator Stafford requested that we submit a budget for the project and one has been sent for 100,000 plus dollars to cover the costs associated with the application of the product. We are on the "list" for money allocation but will not know anything until the NYS Budget is passed. Assemblywoman Little has been in contact with the Regional Director at the DEC on our behalf and has also looked into the possibility of obtaining money from the Environmental Bond Act. The DEC has stated that they are doing everything they can at the moment and that unfortunately funds from the bond act are not appropriate to this project. Assemblyman Little has also promised to work with the other State agencies to try to secure funding for us this year. All of the politicians indicated that they needed to hear from each of us stating that we support the Milfoil eradication project. Several politicians were extended an invitation to attend our annual meeting and picnic. We have not had any confirmations to date.

Environmental Impact Study and Permit Process

Jim Sutherland, the NYS DEC lead person for the project, is working on our behalf and has been in contact with many people to get the Site Specific Environmental Impact Study completed. He has also started filling out the paper work for the necessary permits for the actual application. He states that the remainder of the paperwork will be easily completed when promises of funding become a reality.

SePRO, Sonar, and product applicator Allied Biological

Bo Burns of SePRO continues to work on our behalf. He has stated several times that Eagle Lake has the ideal situation for the use of Sonar because of its wide variety of natural vegetation and the dense beds of Milfoil. SePRO is anxious to show everyone that Milfoil can be controlled without harm to the native vegetation. Allied Biological, the company that has been hired as the product applicator, and SePRO have both worked together to provide the necessary information for Senator Stafford's budget request and say they will guarantee the application for a period of 3 growing seasons. SePRO has been doing some testing with the application of Sonar at other times in the growing cycle and has found success with this. Bo Burns has been discussing this with us and Jim Sutherland to see if it has any relevance to our project.

CSLAP and LCI

CSLAP (Citizens State Lake Assessment Program) is a free lake monitoring program that we applied for. Although we were not selected for this year we are number 2 on the waiting list. However, thanks to Scott Kishbaugh of the DEC, we were .presented with a unique opportunity to have our lake water sampled. The Lake Champlain Inventory (or LCI) collects bimonthly information about water that finds its way into the Lake Champlain Basin. Although Eagle Lake does not drain into the Champlain Basin, Scott stated that since we are in the process of preparing to treat our lake that he would stop by on his way to Lake Champlain and sample our lake. If you see someone on our lake collecting samples, be sure to say hello and thanks!

Thanks for taking the time to catch up with where we are in our efforts and thank you for taking the time to see that of the actions we've asked of you have been addressed. See you at the Annual Meeting!

Rolf Tiedemann, ELPOI Board Member

Thoughts for a Sample Letter to our politicians

Simply state that, "as a property owner on Eagle Lake you support the direction of the Association in the fight to control Milfoil" and that you thank them for their efforts on our behalf. (it needs to be a few words with your signature in your own hand writing. Send it on a Thank You note card if you have one.)

Note- Several of the politicians we've been in contact with have been invited to our annual picnic. We hope to see you and them there.

Weed and Pollution Control Committee Dye Testing
ACTION NEEDED

June 21, 1999

Dear ELPOI Member,

Two years ago as part of the project to rid our lake of Milfoil, a Department of State Grant was sought and subsequently awarded to us. The purpose of this grant was to provide dollars for some of the permit applications and up-front costs for the Milfoil project. A stipulation went along with this grant money: that we as property owners had to contribute some time and labor as in-kind-services. One of these services was to prove that effluent leaching from our septic systems was not a contributing factor to the prolific growth of this nuisance plant.

Last year the Weed and Pollution Control Committee sent out surveys to collect preliminary data about on-site waste-water systems. This survey was returned by many members. If your name is listed below we thank you for your response. If not listed,please take a few minutes to complete the attached survey and return it by July 10th to one of the persons named on the survey.

Starting in the month of July, and continuing throughout the summer of '99, Wayne Wagner, Jim Davis or I will be contacting people to set up a date and time to come and perform a dye test on your septic system. This test will tell if there is any effluent reaching our lake. This part of the test will only take a few moments. At that same time we will also discuss with you what monitoring will need to take place over the next 2 - 4 days and how the collection of data will be handled.

Ticonderoga Town Supervisor Mike Connery has also contributed part of Ti's Code Enforcement Officer's time to this project. Officer Wayne Wagner has worked with us to review the survey letter. He has also offered his records on the status of septic systems on Eagle Lake. He has given Jim and me training on the actual testing procedures and monitoring protocols. In addition to this, he will be overseeing the collection, tabulation and reporting of data so that it is in the correct format to meet the requirements of the grant. Wayne has assured us that if any system is shown to be inadequate that he will provide us with timely guidance for correcting the problems. A copy of the letter Wayne sent us describing his commitment to the program is on the reverse side of this letter.

This effort on your part and ours will be worth about $7,500 towards our in-kind-services obligation and bring us one step closer to our goal of eradication of Milfoil from our lake.

So remember, check the list and send in a survey if you have not yet done so. Even if there is no system on your parcel, we need one survey for each property. If you have questions please call us.

Thanks,

Rolf Tiedemann (716) 647-2514, (518) 597-3618
Jim Davis (518) 585-6686

Survey's were sent in by:

Archbald J.	Demay F.	Loose L.	Stevens N.
Barwig S.	Hannan E.	Maloney L.	Stevens R. C.
Blanchard D. (3)	Harris Assoc. I.	Patterson. A	Tiedemann R.
Buechner P.	Hickland C.	Ploski W.	Walton H.
Burroughs P.	Knauss E.	Runge K.	Warren D.
Conklin C.(2)	Knauss-Rosenblum K.	Secone T.	(#) #of properties
Culley J.	Knauss.W.	Smith T	
Davis J. (2)	Lefeve D.	Stevens J.	

File: Eagle Lake Records, septic dye testing, 2nd WW survey request 5/99 w/hs
print date June 21, 1999 10:30 PM

The Industrial and Historic Center of Essex County

Town of Ticonderoga

Wayne Wagner, Code Enforcement Officer
117 E. Montcalm Street
Ticonderoga, NY 12883

Telephone (518) 585-9851
Fax (518) 585-3279

April 16, 1999

Dear Members of the Eagle Lake Association:

This letter is in regards to your "Department of State Waterfront Revitalization Grant" for the eradicating of the Eagle Lake Milfoil. As you are aware, part of this grant incorporates an evaluation of your on-site wastewater system. This will need to include there location and adequacy. Therefore, to meet the requirements of the grant I will be assisting members of your association in the training, testing, preparation of schematics, and final reporting of data which depicts your sewage disposal systems location and components.

Dye Test will need to be performed to test the systems adequacy. If it is determined that your system is inadequate, you will not be given an appearance ticket immediately or be fined. Instead you will be given an appropriate amount of time to correct the systems deficiency. To set up an appointment to have this test performed please contact myself at **518-585-9851** or Jim Davis at **518-585-6686** or Rolf Tiedemann at **716-647-2514** or July to August at **518-597-3618**.

Any assistance you can provide; such as survey map, will be a great deal of help. If you have any further questions or desire any additional information please feel free to call.

Very truly yours,

Wayne W. Wagner,
Code Enforcement Officer
99-29.WPS

Waste Water Management Survey
Conducted at *Eagle Lake, Essex County, NY*

Dates available for testing and inspection _____

Personal Data

Property Owner _____ First Last	ELPOI map location # _____
Occupants Name _____ First Last	Today's date _____
Phone # _____ Eagle Lake	Phone # _____ Home
Owner's mailing address _____ No. Street PO Box /Etc.	
_____ City State Zip Code	

Site Data (see page 2)

Structure Data None circle if appropriate

Structure Occupancy • Year round (Circle choice) • Seasonal • Approximate # of days _____		Waste water system installation date _____
No. of bedrooms_____	No. of toilets_____	Gallons/ flush ___@1.5,___@3.0,___ @5.0

Type of Waste Water System?

- Septic tank (circle if yes) • # of tanks_____ • Tank material_____ (Concrete, Plastic, etc.) • Total gallons_____
- Leach field (circle if yes) • Type_____ (Trenched, Raised, Gravel pit, etc.) • Size_____
- Additional info./ Other systems_____

_____

ie. Dry well, Holding tank only, Composting toilets, Separate gray water, Out house, etc.

Last Pump Date _____	Other Maintenance/ Modifications _____

Dye Test Information To be completed by tester at a later date

Dye test date_____	Dye color _____	Dye amount_____	Applicator_____
Observation date_____	Observation results_____		Observer_____
Past weeks rainfall_____	Property owner notification date_____		Notifier_____ Notification Method_____

Notes /Recommendations

_____

_____

_____

File: Eagle Lake Records, Septic Dye Testing, 2nd wwsurvey request 6/99 rev
print date: June 21, 199910:50 PM

Site Data Description

Rain water/ gutter drain provision _____
Site erosion control towards lake ie. Berms, Vegetation, Rip-rap, Etc. _____
Fertilizer use within 500 ft of lake (Yes or No) circle amount used _____

In the space below sketch, to rough scale, the waste water system layout at your property. Show the foot print of the house, location of the house with respect to the lake, your drive way, and where applicable the main road, rough property lines if within 500 ft of system parts, location of holding/ septic tank, distribution box and leach field. Label parts for clarity of identification. Include on the sketch any other information that applies to the waste water disposal system. Such as separate gray water systems and storm water run off disposal methods.

Do the best you can with the sketch, we will redraw it as necessary when your system is reviewed. Please fill out as much info. as possible, some of it is better then none, and will get the project started. Return the completed form to; **Rolf Tiedemann, Eagle Lake, HC-01 Box 112-A, Ticonderoga, NY 12883-9410** by July 10th, late forms will be accepted.

File: Eagle Lake Records, Septic Dye Testing, 2nd wwsurvey request 6/99 rev
print date: June 21, 199910:50 PM

- Check with your local regulatory agency if you have a garbage disposal unit to make sure that your septic system can accommodate this additional waste.

- Check with your local regulatory agency before allowing water softener backwash to enter your septic tank.

- Your septic system is not a trash can. Do not put grease, disposable diapers, sanitary napkins, tampons, condoms, paper towels, plastics, cat litter, latex paint, pesticides, or other hazardous chemicals into your system.

- Keep records of repairs, pumpings, inspections, permits issued, and other system maintenance activities.

- Learn the location of your septic system. Keep a sketch of it handy with your maintenance record for service visits.

- Have your septic system inspected every 1–2 years and pumped periodically (usually every 3–5 years) by a licensed inspector/contractor.

- Plant only grass over and near your septic system. Roots from nearby trees or shrubs may clog and damage the absorption field.

- Do not drive or park over any part of your septic system. This can compact the soil and crush your system.

In summary, understanding how your septic system works and adhering to these few simple rules will ensure that your septic system is a safe and economical method for treating and disposing of your wastewater onsite.

For more information regarding the care of your septic system, contact your local health department.

More information about septic systems is available from the National Small Flows Clearinghouse (NSFC) through other brochures in this series:

Groundwater protection and your septic system.
Item **=WWBRPE21**

The care and feeding of your septic system.
Item **=WWBRPE18**

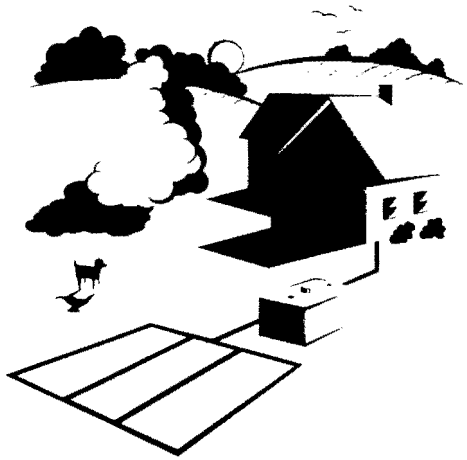
For more information about this or other NSFC products, please contact us by writing to:
National Small Flows Clearinghouse
West Virginia University
P.O. Box 6064
Morgantown, WV 26506-6064
or phone:
(800) 624-8301, (304) 293-4191
(FAX) (304) 293-3161

www.nsfc.wvu.edu

Helping America's small communities meet their wastewater needs

So . . . now you own a septic system

One in a series of three brochures designed to aid you in caring for your septic system.



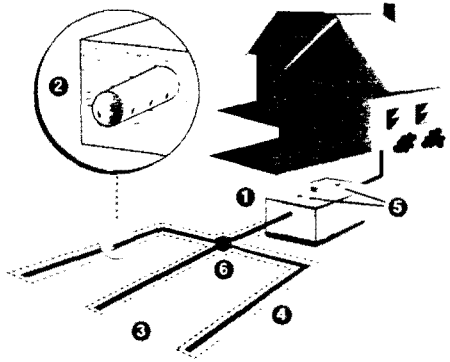
Helping America's small communities meet their wastewater needs

So . . . now you own a septic system

More than 25 million homes, encompassing almost 25 percent of the U.S. population, dispose of domestic wastewater through onsite (unsewered) systems. According to the American Housing Survey for the United States, in 1993 1.5 (million) out of every 4 (million) new owner-occupied home starts relied upon some form of onsite sewage disposal.

One of the major differences between owning an unsewered versus a sewered home is that unsewered wastewater treatment and disposal systems must be maintained by the homeowner. Treatment and disposal of wastewater should be one of the primary concerns of the homeowner in an unsewered area.

The most common way to treat and dispose of wastewater in rural homes is through the use of an onsite disposal system. The majority of onsite disposal systems in the United States are septic systems.



1. septic tank
2. 4" perforated pipe
3. absorption field
4. crushed rock or gravel lined trench
5. inspection ports
6. distribution box

Typical Septic System **Fig. 1**

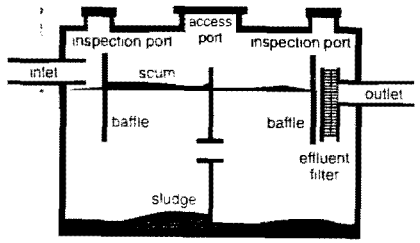
HOW IT WORKS

A typical septic system contains two major components: a septic tank and the absorption field (see Figure 1). Often, a distribution box is included as part of the system to separate the septic tank effluent evenly into a network of distribution lines that make up the absorption field. The septic tank is usually made of concrete, fiberglass, or plastic, is typically buried and should be watertight. All septic tanks have baffles (or tees) at the inlet and outlet to insure proper flow patterns (see Figure 2). Most septic tanks are single compartment; however, a number of states require two-compartment tanks or two single compartment tanks in series.

While typically designed to hold a minimum of 750–1000 gallons of sewage, the size of the tank may vary depending upon the number of bedrooms in the home and state and local regulatory requirements. The primary purpose of the septic tank is to separate the solids from the liquids and to promote partial breakdown of contaminants by microorganisms naturally present in the wastewater. The solids, known as sludge, collect on the bottom of the tank, while the scum floats on the top of the liquid. The sludge and scum remain in the tank and should be pumped out periodically (see Figure 2).

Solids that are allowed to pass from the septic tank may clog the absorption field. Keeping solids out of the absorption field not only prevents clogging, but also reduces potentially expensive repair or replacement costs and helps ensure the ability of the soil to effectively treat the septic tank effluent. Therefore, an additional safeguard in keeping solids out of the absorption field is the use of effluent filters on the outlet of the septic tank (see Figure 2).

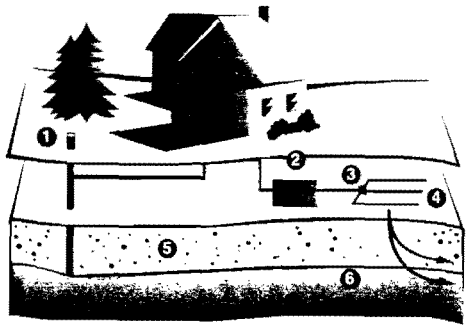
The wastewater (effluent) coming out of the septic tank may contain many potentially disease-causing microorganisms and pollutants (i.e., nitrates, phosphates, chlorides). The effluent is passed on to the absorption field through a connecting pipe or distribution box. The absorption field is also known as the soil drainfield, the disposal field, or the leachfield. The absorption field contains a series of underground perforated pipes, as indicated in Figure 1, that are



Cross-section of a two-compartment septic tank **Fig. 2**

sometimes connected in a closed loop system, as illustrated on the front cover, or some other proprietary distribution system.

The effluent is distributed through the perforated pipes, exits through the holes in the pipes, and trickles through the rock or gravel where it is stored until absorbed by the soil. The absorption field, which is located in the unsaturated zone of the soil, treats the wastewater through physical, chemical, and biological processes. The soil also acts as a natural buffer to filter out many of the harmful bacteria, viruses, and excessive nutrients, effectively treating the wastewater as it passes through the unsaturated zone before it reaches the groundwater (see Figure 3).



1. drinking water well
2. septic tank
3. distribution box
4. absorption field
5. soil absorption (unsaturated zone)
6. groundwater (saturated zone)

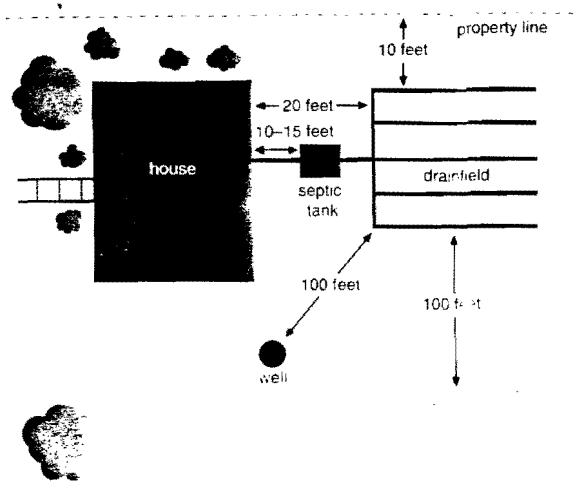
Wastewater treatment and disposal in soil **Fig. 3**

Wastewater contains nutrients, such as nitrates and phosphates, that in excessive amounts may pollute nearby waterways and groundwater supplies. Excessive nutrients in drinking water supplies can be harmful to human health and can degrade lakes and streams by enhancing weed growth and algal blooms. However, the soil can retain many of these nutrients, which are eventually taken up by nearby vegetation.

What to Put In, What to Keep Out

- Direct all wastewater from your home into the septic tank. This includes all sink, bath, shower, toilet, washing machine and dishwasher wastewaters. Any of these waters can contain disease-causing microorganisms or environmental pollutants.
- Keep roof drains, basement sump pump drains, and other rainwater or surface water drainage systems away from the absorption field. Flooding of the absorption field with excessive water will keep the soil from naturally cleansing the wastewater, which can lead to groundwater and/or nearby surface water pollution.
- Conserve water to avoid overloading the septic system. Be sure to repair any leaky faucets or toilets. Use low-flow fixtures.
- Do not use caustic drain openers for a clogged drain. Instead, use boiling water or a drain snake to open clogs.
- Do not use septic tank additives, commercial septic tank cleansers, yeast, sugar, etc. These products are not necessary and some may be harmful to your system.
- Use commercial bathroom cleaners and laundry detergents in moderation. Many people prefer to clean their toilets, sinks, showers, and tubs with a mild detergent or baking soda.

continued . . .



Typical layout of a septic system **Fig. 1**

- **Excessive weed or algae growth in the water near shorelines.** Nutrients leaking from septic systems could be a cause of this type of growth.

- **Health department test results of well water indicate the presence of contamination.** These tests may show the presence of indicator bacteria (e.g., total coliform, fecal coliform) in the water. Nitrate testing is not commonly performed and may need to be requested. Although wastes from septic systems are not the only source of these contaminants, they can be likely suspects.

- **Indicator dye put into your septic system reaches nearby ditches, streams, lakes, or drinking water supplies.** Special dyes are available from your local health department that may help find problems that otherwise are difficult to detect. This method can also help verify the other symptoms listed above.

How to Prevent Problems

- Before installation is complete, have the septic tank tested for watertightness.

- Maintain your septic system by having it inspected and pumped regularly.

- Conserve water in your home by using low-flow fixtures and by implementing water conservation practices to avoid hydraulic overload of your septic system.

- Redirect surface water flow away from your soil absorption field.

- Do not drive vehicles or heavy equipment over the absorption field. This will compact the soil and reduce its ability to absorb water.

- Plant a greenbelt (grassy strip or small, short-rooted vegetation) between your soil absorption field and the shoreline of any nearby surface water body.

- Keep chemicals and other hazardous wastes out of the septic system.

- If you have a drinking water well, have it tested yearly for contaminants. If you suspect a contamination problem, have it tested more often.

For more information regarding the care of your septic system, contact your local health department.

More information about septic systems is available from the National Small Flows Clearinghouse (NSFC) through other brochures in this series.

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Item **#WWBRPE20**

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Helping America's small communities meet their wastewater needs

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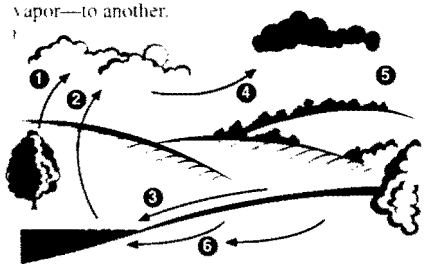
Groundwater protection and your septic system

One in a series of three brochures designed to aid you in caring for your septic system.

Groundwater protection and your septic system

WHAT IS GROUNDWATER?

Water in the saturated zone beneath the soil surface is commonly referred to as *groundwater*. Groundwater is but one stage, or form, through which water passes in the earth's *hydrologic cycle* (see Figure 1). The hydrologic cycle is the continual movement of water over, in, and through the earth and its atmosphere as it changes from one form—solid, liquid, or vapor—to another.



1. evapotranspiration
2. evaporation
3. runoff
4. water-vapor transport
5. precipitation
6. groundwater flow

Hydrologic cycle Fig. 1

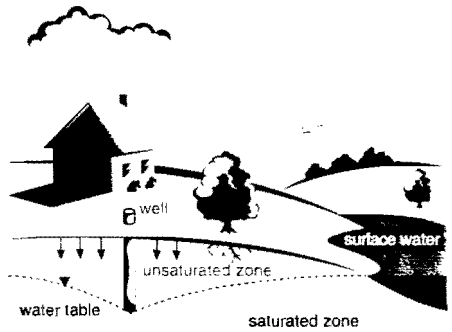
The water you use today may have evaporated from an ocean, traveled through the atmosphere, fallen back to the earth's surface, gone underground, and flowed through streams leading back to the oceans. Water is readily visible in many forms, including clouds, rain, snow, fog, lakes, streams, oceans, and polar ice caps. However, groundwater located beneath the soil surface is a vital resource for the success and survival of the entire ecosystem.

Groundwater has been tapped for thousands of years, but only recently have we started to understand its importance and how to manage this precious resource. Much remains to be discovered about groundwater, and wider public awareness of its nature and properties is an important first step.

Recharge

The process by which water—from rainfall, snowmelt, and other sources—flows into a water-bearing geologic formation (aquifer) is known as *recharge*. Water first passes through the *unsaturated zone*, where soil pores are filled partly with air and partly with water. The water then flows downward through the unsaturated zone into the *saturated zone*, where the soil pores are completely filled with water.

The boundary between these two zones is called the *water table* (see Figure 2). The water table rises when water enters the saturated zone and falls when water is discharged from the saturated zone either naturally (e.g., springs, lakes, or rivers) or by pumping (e.g., wells).



Water table Fig. 2

The unsaturated zone is important to the groundwater underlying it. As incoming water seeps down through the unsaturated zone, impurities are removed, helping to cleanse the water. Both the quantity and quality of groundwater is affected by the condition of the unsaturated zone in a recharge area.

SEPTIC SYSTEMS

A properly designed, installed, and maintained septic system poses no threat to groundwater. However, inadequately functioning and/or failing septic systems can contribute to the contamination of groundwater. Wastewater from septic systems may include many types of contaminants, such as nitrates, harmful bacteria, and viruses.

Trace amounts of metals may be contributed to the system from persons using some medications. Also, commonly used chemical substances, such as pesticides, paints, varnishes, and thinners, can contaminate the groundwater if they are not disposed of properly. Some chemicals, even in small amounts, can be dangerous to both the environment and public health.

Through physical, chemical, and biological processes, the soil acts as a natural buffer to remove bacteria and viruses in the unsaturated zone. However, various geologic conditions, such as fractured bedrock and shallow groundwater tables, may allow these bacteria and viruses to be transported very rapidly and could contaminate nearby drinking water supplies.

Therefore, it is critical that your drinking water well is properly sited, has a sealed casing, and the required distances from nearby septic systems are maintained. This will help prevent contaminants from seeping into and mixing with your drinking water (see Figure 3).

Separation Distances

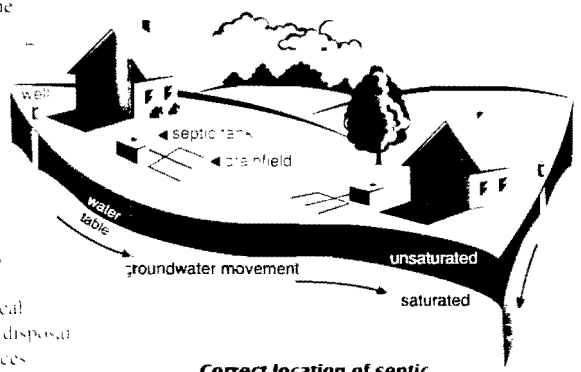
A septic system must be located a certain distance away from drinking water wells, streams, lakes, and houses. These distances are referred to as *horizontal separation distances*. Figure 4 (see back) shows a typical layout of a conventional onsite wastewater disposal system. Actual horizontal separation distances have been established and are specified in local regulations.

In order to maintain aerobic digestion processes and remove contaminants effectively, the absorption field must be adequately separated from the groundwater or other limiting layer. This is known as the *vertical separation distance* and is also specified by local regulations.

Determining System Size and Water Usage

Water use in rural households can be predicted from the house plan, depending on the number of bedrooms, water-using appliances, and potential additions. Although the actual number of residents determines water use in a house, the house plan determines the potential number of residents (e.g., number of bedrooms), water usage, and subsequent wastewater flow.

Typical wastewater flow rates range from 60–120 gallons per person per day. Typical minimum septic tank sizes range from 750–1000 gallons. The flow estimate, plus the soil permeability estimate (i.e., how easily water moves through the soil), is used to determine the area of the absorption field needed for the system. Installing a drainfield of sufficient size is critical to the proper functioning of your septic system. Local regulations should always be reviewed before installing a septic system.



Correct location of septic systems and drinking water wells Fig. 3

Are Contaminants Reaching the Water?

Signs of wastewater from your septic system could be reaching water sources include:

- **Unpleasant odors (e.g., persistent rotten egg smell), soggy soil, liquid waste flow, or excessive grass growth over the soil absorption area.** These symptoms often indicate failure of the system and the need for repairing, expanding, or replacing the absorption area.

continued . . .

Septic System Health Tips

What you put into your septic system will have a direct effect on whether or not you have a healthy, long-lasting and trouble-free system. Your septic system is not a dispose-all.

- Conserve water to avoid overloading the septic system. Be sure to repair any leaky faucets or toilets. Use low-flow fixtures.
- Do not use caustic drain openers for a clogged drain. Instead, use boiling water or a drain snake to open clogs.
- Do not use septic tank additives, commercial septic tank cleansers, yeast, sugar, etc. These products are not necessary and some may be harmful to your system.
- Use commercial bathroom cleaners and laundry detergents in moderation. Many people prefer to clean their toilets, sinks, showers, and tubs with a mild detergent or baking soda.
- Check with your local regulatory agency if you have a garbage disposal to make sure that your septic system can accommodate this additional waste.
- Check with your local regulatory agency before allowing water softener backwash to enter your septic tank.
- Your septic system is not a trash can. Do not put disposable diapers, sanitary napkins, tampons, condoms, paper towels, facial tissues, plastics, cat litter, or cigarettes into your septic system. These items quickly fill your septic tank with solids, decrease the efficiency, and will require that you pump out the septic tank more frequently. They may also clog the sewer line to the septic system causing wastewater to back up into your home.
- Avoid dumping grease or fats down your kitchen drain. They solidify and the accumulation may contribute to blockages in your system.
- Keep latex paint, varnishes, thinners, waste oil, photographic solutions, pesticides, or other hazardous chemicals out of your system. Even in small amounts, these items can destroy the biological digestion taking place within your septic system.

Septic systems are a very simple way to treat household wastewater and are easy to operate and maintain. Although homeowners must take a more active role in maintaining septic systems, once they learn how their systems work, it is easy for them to appreciate the importance of a few sound operation and maintenance practices.

For more information regarding the care of your septic system, contact your local health department.

More information about septic systems is available from the National Small Flows Clearinghouse (NSFC) through other brochures in this series:

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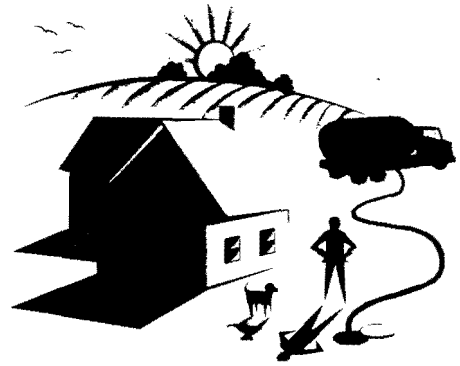


Helping America's small communities meet their wastewater needs

The care and feeding of your septic system

Septic systems are very much like automobiles. They need periodic inspections and proper maintenance to continue working properly. Also, like automobiles, they must be operated properly and cannot be overtaxed without the owner suffering consequences such as repair or replacement bills.

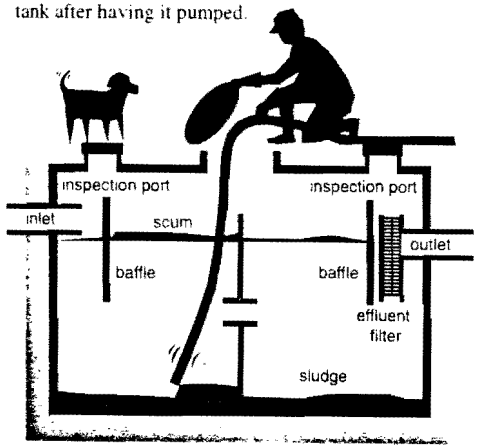
Often overlooked or neglected is the fact that a septic system should have a regular check-up to prevent problems. You should have your septic system inspected every 1-2 years by a professional and your tank pumped when necessary. The septic tank traps the solids in the wastewater and should be checked to determine whether or not it is time for it to be pumped out. The inspection port should be opened and the baffles (internal slabs or tees) should be checked to ensure that they are in good condition since the last check-up (see Figure 1). If you have a septic tank effluent filter, it should also be inspected. Effluent filters require periodic cleaning. Some filters are now equipped with alarm systems to alert the homeowner when the filter has become dirty and needs to be cleaned. Failure to keep the filter clean may result in a backup of wastewater in the home from a clogged filter. Septic systems that have mechanical parts such as a pump should be inspected at least once a year or more frequently as recommended by the manufacturer. The absorption field should be checked for sogginess or ponding, which indicates improper drainage, a clogged system, or excessive water use. The presence of damp or soggy areas or odors may indicate a leak in the system.

SEPTIC TANK

A properly designed septic system will have a septic tank with sufficient volume to accumulate solids for several years. As the level of solids rises in the tank, the wastewater has less time to settle properly and suspended solid particles flow into the absorption field. If the tank is not periodically pumped out, these solids will eventually clog the absorption field to the point where a new field will be needed.

When the tank is pumped, the contractor should pump the contents through the manhole, which is usually located in the center of the tank, rather than through the inspection ports. Pumping through one of the inspection ports could damage the baffles inside the tank (see Figure 1). Damage to the baffles could result in the wastewater flowing directly into the absorption field without the opportunity for the solids to settle.

Remember, commercial septic tank additives do not eliminate the need for periodic pumping and may be harmful to the absorption field. You should check your local health department regulations before using additives. Be sure when the septic tank is pumped that it is completely emptied. It is not necessary to retain any of the solids to restart the digestive process. You do not need biological or chemical additives for successful restart or continuous operation of your septic system, nor should you wash or disinfect the tank after having it pumped.



Cross-section of a two-compartment septic tank being pumped **Fig. 1**

When to Have Your Septic Tank Pumped

A specific determination of when it's time to pump out the solids can be made by having the depth of solids and level of scum buildup on top of the wastewater in the septic tank checked periodically. Two factors affect how often you should have your septic tank pumped. Whether you need to have your tank pumped every year, once every five years, or some other time interval is affected by these factors. The first factor is the size or capacity of the tank itself. If more people are living in the home than when the system was installed, or if new high water use appliances or technologies such as a hot tub or whirlpool bath are now in use, then the capacity may be too small. The more people using a system, the faster the solids will accumulate in the tank, and the more frequently the tank will need to be pumped. Also, the additional surge of water from hot tubs and whirlpool baths may wash solids out of the tank and into the absorption field. An inspection can determine whether the system is of adequate capacity to handle the volume of solids and flow from the number of people in the household and types of appliances used. A larger capacity system provides better treatment and requires less pumping.

The second factor is the volume of solids in the wastewater. If you have a garbage disposal, for example, you will have to pump out your system more frequently than persons disposing of their food wastes through other means. The use of a garbage disposal may increase the amount of solids in the septic tank by as much as 50 percent. Excessively soiled clothes may add solids to your septic tank. Sometimes, geographical location may also contribute to extra solids ending up in the septic tank. For example, systems in coastal areas may have an accumulation of sand in the septic tank from washing beach clothes.

Reducing the Flow of Wastewater

Generally, the more people, the more water will flow through the system. However, the use of water conservation devices such as low-flow toilets or shower fixtures greatly reduces the amount of wastewater thus prolonging the life of your septic system. For example, up to 53 gallons of water are discharged into your system with each load of laundry. If several loads are done in one day, it can put considerable stress on your system. A better practice would be to space your laundry washing throughout the week.

The new ultra low-flush toilets use between 1 and 1.6 gallons of water per flush and will provide as much as a 30 percent water savings. Low-flow faucet aerators on sink faucets and low-flow showerheads will save additional water. There are also low-flow washing machines which use much less water than standard washing machines.

ABSORPTION FIELD

An absorption field generally does not require any maintenance. However, to protect and prolong the life of the absorption field, follow these simple rules:

- Plant only grass over and near your septic system. Roots from nearby trees or shrubs may clog and damage the absorption field.
- Do not drive or park over any part of your septic system. This can compact the soil and crush your system.
- Direct all wastewater from your home into the septic tank. This includes all sink, bath, shower, toilet, washing machine and dishwasher wastewaters. Any of these wastewaters can contain disease-causing microorganisms or environmental pollutants.
- Keep roof drains, basement sump pump drains, and other rainwater or surface water drainage systems away from the absorption field. Flooding of the absorption field with excessive water will keep the soil from naturally cleansing the wastewater, which can lead to groundwater and/or nearby surface water pollution.

continued . . .

The Industrial and Historic Center of Essex County

TOWN OF TICONDEROGA

Code Enforcement Office **Telephone (518) 585-9851**
117 E. Montcalm Street, Ticonderoga, NY 12883 **Fax (518) 585-3279**

July 27, 1999

Mr. & Mrs. Rolf Tiedemann
358 Electric Avenue
Rochester, NY 14613

Mr. & Mrs. Tiedemann:

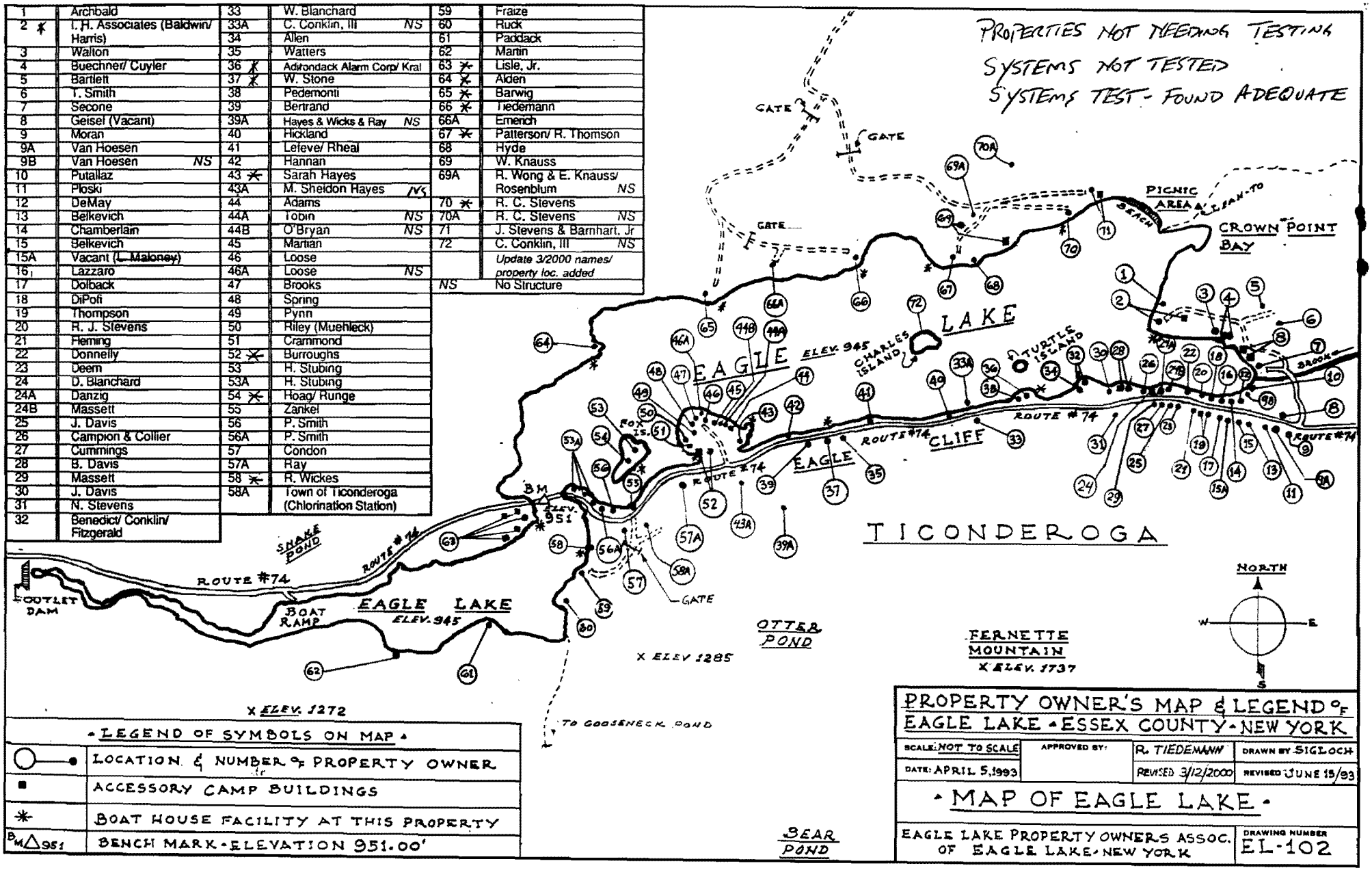
On July 20, 1999, your sewage disposal system on lot 138.1-2-21.200 (of the Tax Maps of the Town of Crown Point, New York) was dye tested as recommended by the *Eagle Lake Property Owner's Inc.* On July 21, 1999, no trace of the dye used to conduct the test was found on the premises or on the lake front. Therefore, your system is presently considered to be adequate.

Thank you for your time and cooperation regarding this matter. If you have any further questions or require additional information contact me at the above given address or phone number.

Sincerely,

Mark R. Bennett

el-14.wps



1	Archbald	33	W. Blanchard	59	Fraize
2 *	I. H. Associates (Baldwin/ Harris)	33A	C. Conklin, III NS	60	Ruck
3	Walton	34	Allen	61	Paddack
4	Buechner/ Cuyler	35	Watters	62	Martin
5	Bartlett	36 *	Adirondack Alarm Corp/ Kral	63 *	Lisle, Jr.
6	T. Smith	37 *	W. Stone	64 *	Alden
7	Secone	38	Pedemonti	65 *	Barwig
8	Geisel (Vacant)	39	Bertrand	66 *	Tiedemann
9	Moran	39A	Hayes & Wicks & Ray NS	66A	Emerich
9A	Van Hoesen	40	Hickland	67 *	Patterson/ R. Thomson
9B	Van Hoesen NS	41	Lefeve/ Rheal	68	Hyde
10	Putallaz	42	Hannan	69	W. Knauss
11	Ploski	43 *	Sarah Hayes	69A	R. Wong & E. Knauss/ Rosenblum NS
12	DeMay	43A	M. Sheldon Hayes NS	70 *	R. C. Stevens
13	Belkevich	44	Adams	70A	R. C. Stevens NS
14	Chamberlain	44A	Tobin NS	71	J. Stevens & Barnhart, Jr
15	Belkevich	44B	O'Bryan NS	72	C. Conklin, III NS
15A	Vacant (L. Maloney)	45	Martian		Update 3/2000 names/ property loc. added
16	Lazzaro	46	Loose	NS	No Structure
17	Dolback	46A	Loose NS		
18	DiPofi	47	Brooks		
19	Thompson	48	Spring		
20	R. J. Stevens	49	Pynn		
21	Heming	50	Riley (Muehleck)		
22	Donnelly	51	Crammond		
23	Deem	52 *	Burroughs		
24	D. Blanchard	53	H. Stubing		
24A	Danzig	53A	H. Stubing		
24B	Massett	54 *	Hoag/ Runge		
25	J. Davis	55	Zankel		
26	Campion & Collier	56	P. Smith		
27	Cummings	56A	P. Smith		
28	B. Davis	57	Condon		
29	Massett	57A	Ray		
30	J. Davis	58 *	R. Wickes		
31	N. Stevens	58A	Town of Ticonderoga (Chlorination Station)		
32	Benedict/ Conklin/ Fitzgerald				

LEGEND OF SYMBOLS ON MAP	
○—●	LOCATION & NUMBER OF PROPERTY OWNER
■	ACCESSORY CAMP BUILDINGS
*	BOAT HOUSE FACILITY AT THIS PROPERTY
BM△951	BENCH MARK - ELEVATION 951.00'

PROPERTY OWNER'S MAP & LEGEND OF EAGLE LAKE - ESSEX COUNTY - NEW YORK

SCALE: NOT TO SCALE	APPROVED BY:	R. TIEDEMANN	DRAWN BY SIGLOCH
DATE: APRIL 5, 1993		REVISED 3/12/2000	REVISED JUNE 15/93

- MAP OF EAGLE LAKE -

EAGLE LAKE PROPERTY OWNERS ASSOC. OF EAGLE LAKE - NEW YORK

DRAWING NUMBER EL-102