

Drinking Water
and Waste
Management
Among Members
of the Temagami
Lakes Association

July 2014



Services de santé du
TIMISKAMING
Health Unit

Acknowledgements

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Doug Metson, Chief Building Officer
Cameron Clark, Manager
Celine Butler, Epidemiologist

Special thanks to the residents of the Temagami Lakes Area who responded to the survey.

For further information, please contact Amanda Mongeon, Program Evaluator, Timiskaming Health Unit at 705-647-4305 x2264 or mongeona@timiskaminghu.com.

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Summary

Introduction

During the spring of 2014, THU worked with the TLA to learn from its members how THU can best support safe drinking water and human waste management in the Temagami Lakes area.

Method

A questionnaire was created and made available to all TLA members with email addresses from April 15 to May 6 2014 with an initial invitation sent on April 15 and one reminder May 2. Hard copies with an invitational letter and return envelope were mailed to remaining TLA members on April 28.

Even though the invitation went to all TLA members, recipients were asked to submit one response per property rather than one per member.

Of the estimated 380 TLA member-owned properties in the Temagami Lakes area, this report reflects responses from 143. This indicates a response rate of 37.6%.

Results

- Of 142 question respondents, 33 reported having participated in the 2013 water sampling program. The top three reasons for not participating include not having heard about the program, not thinking it was necessary and having difficulty coordinating with student pick-up.
- One-hundred and fifteen respondents (80%) indicated willingness to bring their own

water samples to a central drop-off location in Temagami.

- 42 respondents (30%) would like help interpreting their sample results.
- Most mentioned drinking water sources for respondents were bottled water (35%), lake water with filtration and UV (31%), lake water with filtration only (26%), lake water with no treatment (20%) and boiled lake water (13%).
- Respondents would like to learn more about drinking water treatment options (75%), drinking water hazards (49%) and safe drinking water sources (38%).
- Fifty-six percent of respondents report having an outhouse, 49% a class 4 septic system and 26% composting toilet.
- Reasons given for not having a septic system inspected are: working fine (57%), system was recently installed (41%), and didn't know could ask for an inspection (14%). Only 4% mentioned concern about cost of repairs as a deterrent to a septic system inspection.
- Seventeen percent of respondents already have their septic system inspected.
- Regarding waste management, respondents would like to learn more about: new technology (34%), overview of waste management in the Temagami Lakes Area (29%), waste management system design criteria (21%) and use permit/application process (6%).

Limitations

One of the limitations to this report is the likelihood that respondents may have responded to some of the questions in a way that they felt was desirable to the Timiskaming Health Unit. Others may have been more likely to respond or not respond, depending on their interest in the topic and compliance with recommended practice. The survey had a response rate of 37% and findings can be useful for planning and outreach but are not generalizable to all TLA members.

Only TLA members were invited to respond to this survey, representing approximately 380 properties. These findings are not generalizable to the entire Temagami Lakes area.

Recommendations

Timiskaming Health Unit reviewed the findings in this report and have committed to implementing the following recommendations. Others have been listed as possible steps for TLA to consider upon reviewing this report. Readers are encouraged to develop additional recommendations for further action.

1. Timiskaming Health Unit: recommendations

- a. Increase awareness about water treatment and waste management options that are economical, effective and appropriate. Consider TLA Times, presentations at AGM and other venues.
- b. Provide information about proper use of composting toilet.
- c. Promote availability of sanitary survey; include information about related costs and how to access the service.

- d. Advocate for septic system re-inspection by-law within the municipality of Temagami.

2. Temagami Lakes Association: for consideration

- a. Use the information in this report to design the 2014 water sampling program.
 - Promote Timiskaming Health Unit as a resource for interpreting water results.
 - Expand timeframe and decrease coordination required by having a central drop-off location
 - Describe program: free of charge, length of program (i.e. number of weeks), how to participate in the program
- b. Advocate for a septic system re-inspection by-law within the municipality of Temagami.
- c. Work with houseboat owners to promote water stewardship.

Introduction

During the summer of 2013, Timiskaming Health Unit (THU) worked with the Temagami Lakes Association (TLA) to offer drinking water sampling services on Lake Temagami. THU has also worked over the years with the TLA to promote effective management of human waste. During the spring of 2014, THU worked with the TLA to learn from its members how THU can best support safe drinking water and human waste management in the Temagami Lakes area.

Method

A questionnaire (Appendix A) was created by the Timiskaming Health Unit, with input from the Temagami Lakes Association Executive. The survey was made available online to all TLA members with email addresses from April 15 to May 6 2014 with an initial invitation sent on April 15 and one reminder May 2. Hard copies with an invitational letter return envelope (stamped for Canadian addresses and with 2 US dollars included for US addresses) were mailed to remaining TLA members on April 28.

Even though the invitation went out to all TLA members, members were asked to submit one single response per property rather than one response per member. There are an estimated 350 properties in the Temagami Lakes area.

Results were compiled by Timiskaming Health Unit and shared with TLA in July 2014.

Limitations

One of the limitations to this report is the likelihood that respondents may have responded to some of the questions in a way that they felt was desirable to the Timiskaming Health Unit. For example, some respondents may have under-reported older septic systems or composting toilets without the appropriate cesspool because the THU is responsible for enforcing proper waste management, or may have not even responded to the survey. Conversely, individuals with an interest in proper waste management and who have the proper system in place may have been more likely to respond to this survey.

The survey had a response rate of 37% and findings can be useful for planning and outreach but are not generalizable to all TLA members.

Finally, only TLA members were invited to respond to this survey, representing approximately 380 properties. These findings are not generalizable to the entire Temagami Lakes area.

Analysis

Survey results are presented below. Responses to open-ended questions have been grouped and summarized according to themes that emerge within the responses.

Temagami Drinking Water and Waste Management: Report

The survey received a total of 175 responses. Twenty-six completely blank surveys were deleted as were 6 incomplete surveys that matched completed surveys by IP address¹. Of the estimated 380 properties in the Temagami Lakes area, 143 responses have been included in the analysis below. This indicates a response rate of 37.6%.

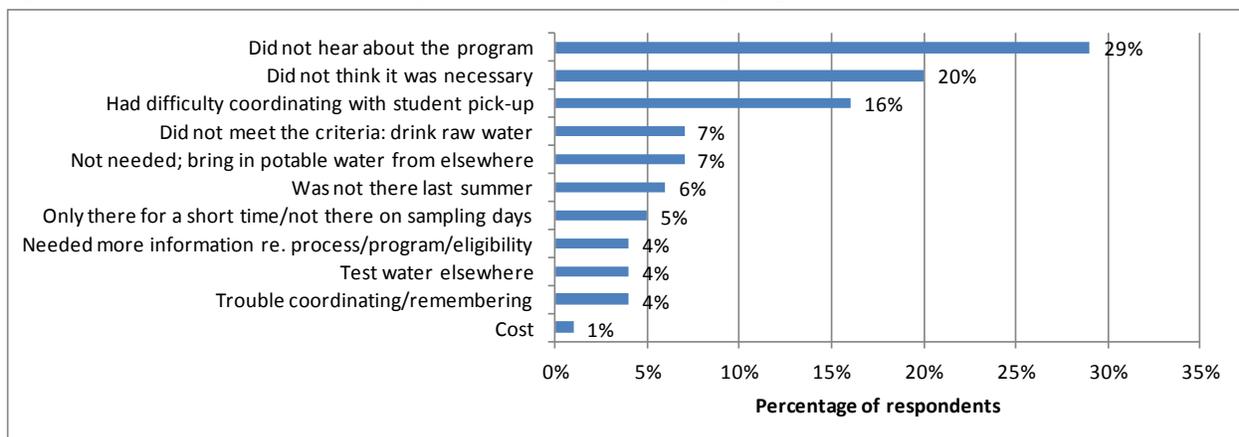
Results

A. Drinking Water

During the summer of 2013 the Timiskaming Health Unit (THU) teamed up with the Temagami Lakes Association to offer drinking water sampling services on Lake Temagami. Drinking water samples were tested for total coliforms and *E. coli* at the Public Health Laboratory in Timmins. Samples had to be either well water or treated lake water; no raw lake water samples could be submitted for drinking water analysis. The service was to make water sampling accessible to cottagers in remote areas of the lake and to raise awareness about safe sources of drinking water.

Of 142 question respondents, 33 reported having participated in the 2013 water sampling program. Figure 1 presents reasons offered by 100 of those who did not participate.

Figure 1. Reasons for not participating in the 2013 water sampling program (number of responses=100).



One hundred fifteen respondents (80%) indicated willingness to bring their own water samples to a central drop-off location in Temagami once during the summer of 2014. Possible days of the week were Monday, Tuesday and Wednesday; preference was nearly equal for all three (Monday-93; Tuesday-81; Wednesday-88). Thirty-four respondents indicated that they experience significant physical or transportation barriers in travelling to a central location and would need a student to pick their sample up.

Forty-two respondents (30%) would like help interpreting their sample results.

¹ One of the challenges of using an online survey is that it keeps all responses, whether the respondent marked “complete” or not.

Temagami Drinking Water and Waste Management: Report
 Residents of the Temagami Lakes area have a number of options for sourcing and treating their drinking water. Figure 2 presents survey respondents' drinking water sources.

Figure 2. Sources of drinking water used by respondents (number of responses=141).

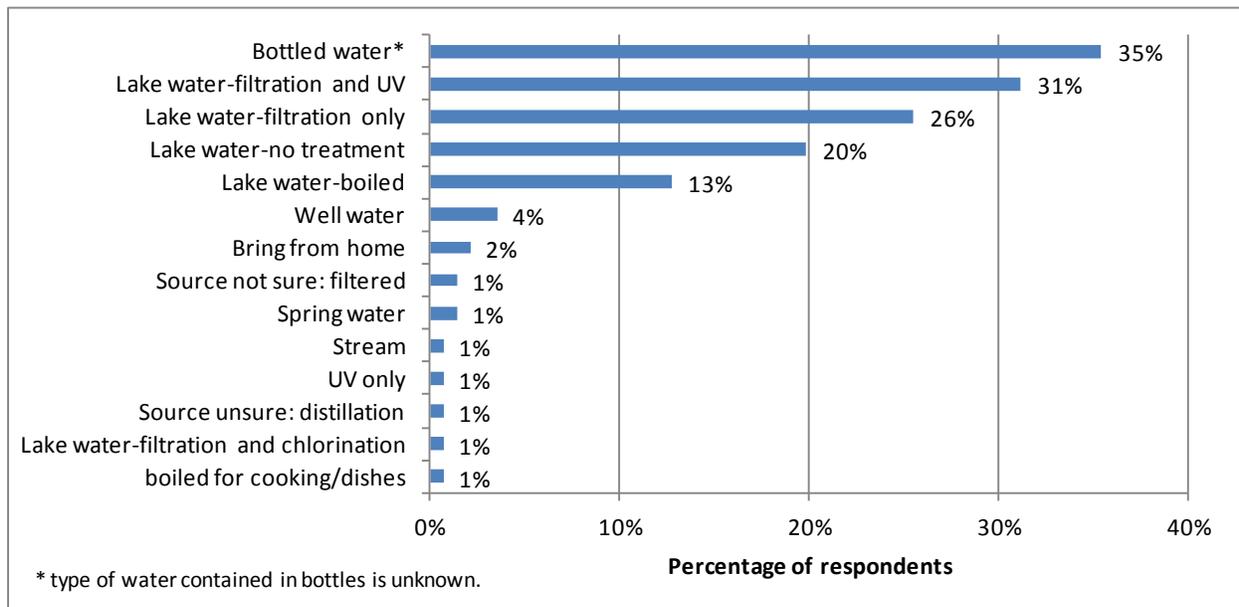
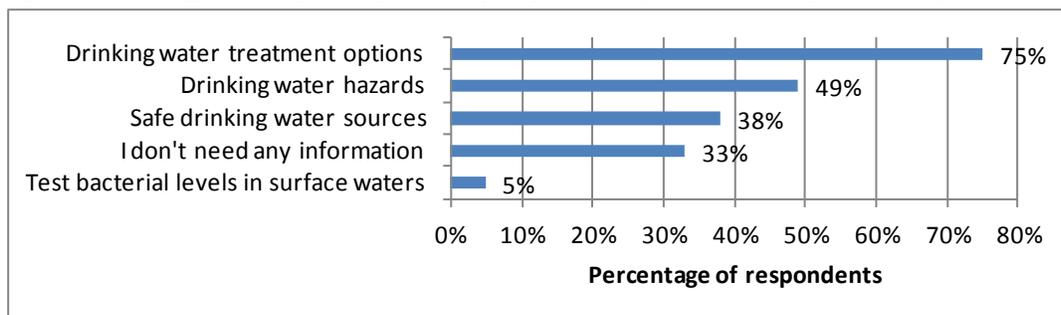


Figure 3 presents topics respondents would like to learn more about, to help with their drinking water decisions.

Figure 3. Drinking water topics requested by respondents (number of responses=100).



Nineteen respondents offered additional comments about drinking water. The following are themes that emerged from their comments. Although some people offered these comments it is unknown whether their opinions are shared by others.

- If able, will participate—only go into town on weekends, only in the area for a short time, lake conditions determine ability to make trip (mentioned 5 times)
- Belief that raw lake water is safe to drink (mentioned 3 times)
- Need clarification about the sampling program e.g. cost, timing, treated vs. untreated water (mentioned 3 times)

Temagami Drinking Water and Waste Management: Report

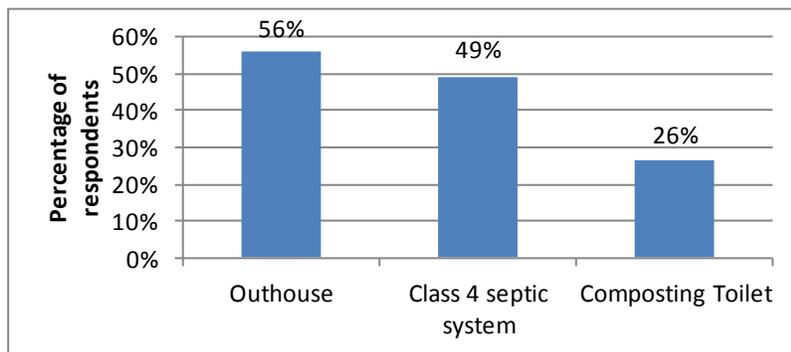
- Appreciate the program/information from TLA
- Some use a spring & believe the water has been tested
- Had a negative experience with the program last year

B. Waste Management

Waste management systems were not tracked until the health unit began maintaining records in the 1960s. Since then, although some new systems have been installed or upgraded, many have not. As a result, very little is known about the status of waste management systems throughout the Temagami Lakes area.

Figure 4 presents reported types of waste management systems used by respondents.

Figure 4. Respondents` reported type of waste management system (number of responses=144).

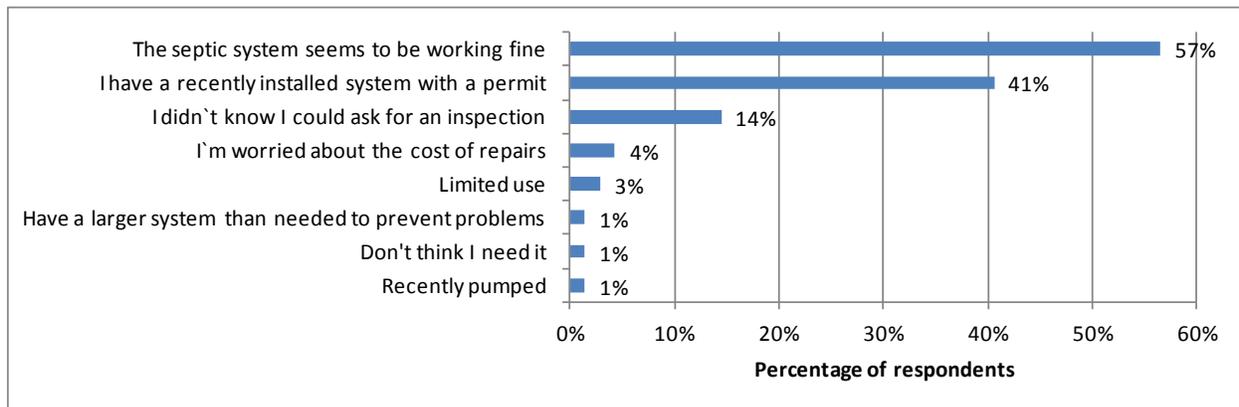


Of the 38 people who report having a composting toilet, 4 report having a cesspool and 3 of these are at least 100 ft from a body of water. Some types of composting toilets require a cesspool whereas others do not; we are unsure of the types of composting toilets in use in the Temagami Lakes area.

Of the 70 respondents who report having a class 4 septic system, date of installation for the septic tank ranges from 1977-2014.

Respondents who have a class 4 septic system were asked why they may not have their system inspected. Sixty-nine people responded, giving reasons listed in Figure 5. There is a possibility of bias to the information below, where respondents may have felt inclined to answer in a way that the health unit found preferable.

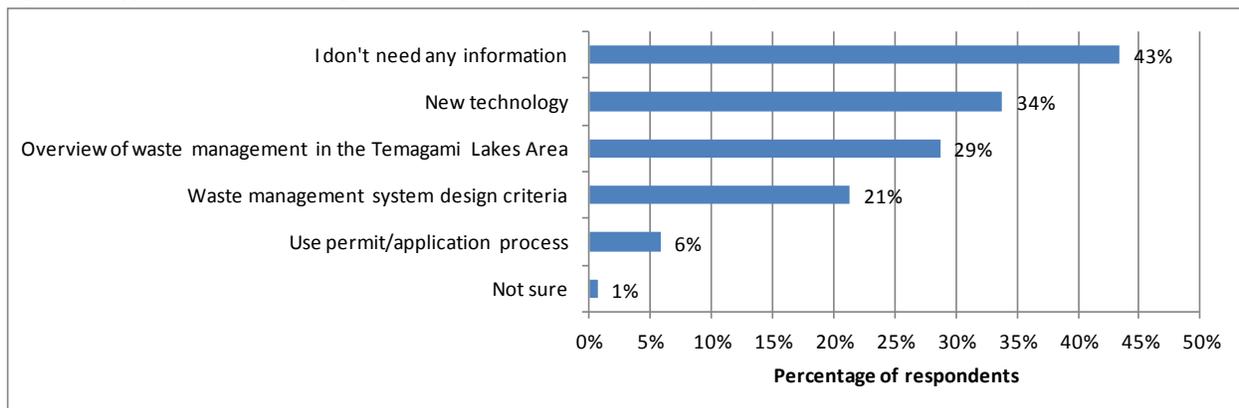
Figure 5. Reasons for not having septic system inspected (number of responses=69).



Seventeen percent of respondents indicated that they already have their septic system inspected.

Figure 6 presents topics respondents would like to learn more about to help with their waste management decisions.

Figure 6. Types of waste management information requested by respondents (number of responses=136).



Twenty-two respondents offered additional comments about waste management and septic systems. The following are themes that emerged from their comments. Although some people offered these comments and it is unknown whether their opinions are shared by others.

- Establish by-law / mandatory inspection program (mentioned 8 times)
- Regulate houseboat discharge (mentioned 3 times)
- Older systems are a hazard
- Offer financial assistance
- Interested in complying
- Regulate waste at campsites

Recommendations/Next Steps

Timiskaming Health Unit reviewed the findings in this report and have committed to implementing the following recommendations. Others have been listed as possible steps for TLA to consider upon reviewing this report. Readers are encouraged to develop additional recommendations for further action.

1. Timiskaming Health Unit: recommendations

- a. Increase awareness about water treatment and waste management options that are economical, effective and appropriate. Consider TLA Times, presentations at AGM and other venues.
- b. Provide information about proper use of composting toilet.
- c. Promote availability of sanitary survey; include information about related costs and how to access the service.
- d. Advocate for septic system re-inspection by-law within the municipality of Temagami.

2. Temagami Lakes Association: for consideration

- a. Use the information in this report to design the 2014 water sampling program.
 - Promote Timiskaming Health Unit as a resource for interpreting water results.
 - Expand timeframe and decrease coordination required by having a central drop-off location
 - Describe program: free of charge, length of program (i.e. number of weeks), how to participate in the program
- b. Advocate for a septic system re-inspection by-law within the municipality of Temagami.
- c. Work with houseboat owners to promote water stewardship.

Appendix A: Questionnaire

Temagami Drinking Water and Waste Survey 2014

You are being asked to participate in a survey developed by the Timiskaming Health Unit. You were selected as a possible participant because you own or use a property in the Lake Temagami area. **Your participation in this survey is voluntary and responses are anonymous.**

The Timiskaming Health Unit is a publicly funded organization whose mandate is to promote health and prevent illness in the district of Temiskaming, Ontario including the municipality of Temagami. We achieve this by providing a variety of public programs such as the Safe Water Program.

Purpose of the survey

The purpose of this survey is to better understand the general status of waste management systems, sources of drinking water and what you might want to learn about water and waste. Please complete the survey and then return it to the Timiskaming Health Unit using the enclosed stamped envelope.

The survey should take approximately 10 minutes to complete.

Potential benefits

Your participation will help THU better support Temagami Lakes Area residents in preserving health on Lake Temagami by encouraging repair or replacement of old or malfunctioning septic systems and promoting safe drinking water practices.

For more information

If you have any questions or concerns about this survey, please feel free to contact:

Amanda Mongeon, M.Ed.

Program Evaluator, Timiskaming Health Unit

(705) 647-4305 or mongeona@timiskaminghu.com

*We ask that ONE RESPONSE be submitted on behalf of any given property, ideally by the person primarily responsible for decision-making for the property. If you are one of several people who use a single property in Temagami we hope you will connect with others to ensure that only one survey response is submitted.

Drinking Water

Last summer the Timiskaming Health Unit (THU) teamed up with the Temagami Lakes Association to offer drinking water sampling services on Lake Temagami. Drinking water samples were tested for total coliforms and E. coli at the Public Health Laboratory in Timmins. Samples had to be either well water or treated lake water; no raw lake water samples could be submitted for drinking water analysis. The service was to make water sampling accessible to cottagers in remote areas of the lake and to raise awareness about safe sources of drinking water.

Did you participate in this program?

- Yes
- No

If you answered "no," please explain why you did not participate (check all that apply).

- Did not hear about the program
- Did not think it was necessary
- Difficulty coordinating with student for pick-up
- Other, please specify... _____

Most residents submit drinking water samples for bacterial analysis once each year. In 2013 a student travelled to cottages to pick up samples.

In 2014, would you be willing to bring your own drinking water samples to a central drop-off in Temagami (eg: the TLA building or chamber of commerce office)?

- Yes
- No

If yes, which of the following days would work as drop-off days? (Choose all that apply)

- Monday
- Tuesday
- Wednesday

For those who experience significant physical/transportation barriers in travelling to TLA headquarters, pick-up of your sample may be arranged.

Do you expect needing to use this service in 2014?

- Yes
- No

Do you need help with water sample result interpretation?

- Yes
- No

When in the Temagami Lakes area, what is your drinking water source? (choose all that apply)

- Bottled water
- Lake water - no treatment
- Lake water – filtration only
- Lake water – filtration and UV
- Lake water – filtration and chlorination
- Lake water – chlorination only
- Well water
- Other, please specify... _____

What information can the Timiskaming Health Unit provide to help you with drinking water decisions? Check all that apply.

- Safe drinking water sources
- Drinking water treatment options
- Drinking water hazards
- I don't need any information
- Other, please specify... _____

Please share any other comments about the water sampling program or about drinking water in the Temagami Lakes Area.

Waste Management

We would like to better understand the need for support related to human waste systems in the Temagami Lakes Area. Please remember that your responses are completely anonymous. All questions relate to your property in the Temagami Lakes area.

Do you have an outhouse?

- Yes
- No

Do you have a composting toilet?

- Yes
- No

If yes, do you have a cesspool (a pit which can be used to dispose of urine and feces)?

- Yes
- No
- Don't know

If yes, is it at least 100 ft from a body of water?

- Yes
- No
- Don't know

Do you have a Class 4 septic system (septic tank and tile bed)?

- Yes
- No

In what year was your septic tank installed?

- Don't know

Any of the following can indicate a malfunctioning septic system:

- Septic tank empty after a period of non-use
- Grass over the system at times become unusually green or spongy to walk on
- Toilets, showers and sinks take longer to drain
- Occasional sewage odours become noticeable
- Gray or black liquid surfacing in your yard or backing up through plumbing fixtures
- Unusual algae growth along the shoreline near your septic system
- System installed before 1984
- System consist of a steel tank installed before 1970

A malfunctioning system can pollute the lake. An inspection can help you understand ways to ensure your septic system is working optimally.

What prevents you from having your septic system inspected? Check all that apply.

- I have a recently installed system with a permit
- I didn't know I could ask for an inspection
- I'm worried about the cost of repairs
- The septic system seems to be working fine
- Other, please specify... _____

What information can the Timiskaming Health Unit provide to help with your waste management decisions? Check all that apply.

- Use permit/application process
- Waste management system design criteria
- New technology
- Overview of waste management in the Temagami Lakes Area
- I don't need any information
- Other, please specify... _____

Please share any other comments about waste management or septic systems in the Temagami Lakes Area.

Timiskaming Health Unit and Temagami Lakes Association thank you for taking the time to complete this survey.

If you are unsure about any of the details about your waste management system, the Timiskaming Health Unit might have records. To learn more about waste management systems, contact Doug Metson, Building Control Officer (metsond@timiskaminghu.com). To learn more about drinking water safety, contact Renee Duval, Public Health Inspector (duvalr@timiskaminghu.com).

You can also call the health unit at 1-866-747-4305.

Thank you!