

## **What do we really know about how our domestic wastewater is treated?**

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### **INTRODUCTION**

Regulators and system designers are introducing requirements for design and management of on-site systems that place considerable onus on property owners. Many property owners are unfamiliar with wastewater management and the environmental and public health consequence of system failures.

In order to effectively manage on-site wastewater treatment and discharge facilities it is important to understand what the base level of community knowledge is, and in particular what is the knowledge of system owners. Regional rules and system designs assume a degree of knowledge and competence of on-site system owners, however it is unclear if this knowledge exists.

An attempt has been made to ascertain the degree of knowledge by surveying a small community, and gauge their understanding of their system design, operational requirements and maintenance requirements.

### **METHODS**

A survey has been carried out by Duffill Watts Consulting Group (DWG) Palmerston North with the aim of finding out how much people actually know about their wastewater systems. 120 families were given a voluntary questionnaire to fill in distributed through a rural school newsletter. The survey was designed to give an indication of the general public's knowledge of their wastewater systems and how they take care of them.

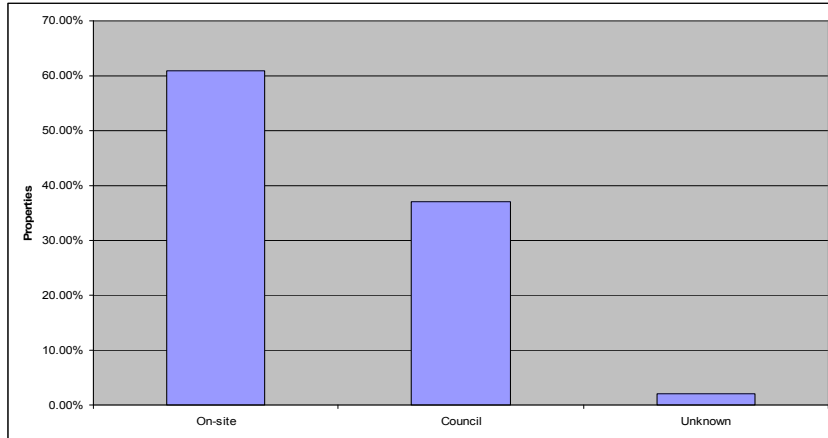
The survey had questions relating to knowledge of a wastewater system, through to operation and maintenance requirements. It was designed to be very brief and simple.

### **RESULTS**

The average family size of the surveyed group was two adults and two children with 49 of the 120 original families responding (41%).

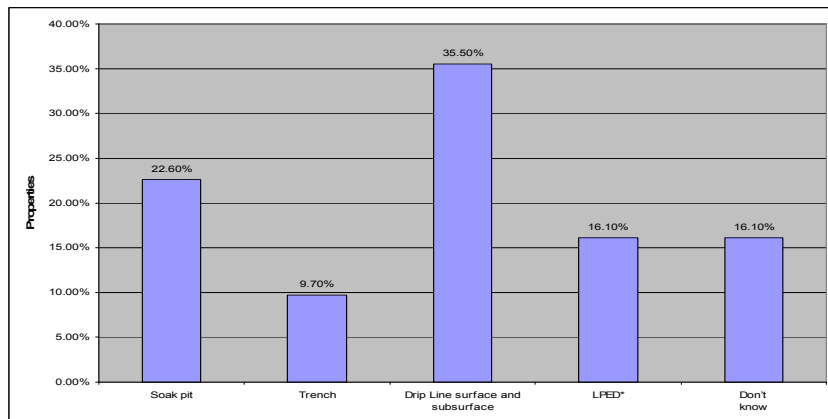
The following section shows the response to the questions contained in the survey

**Q1. What type of wastewater system do you have?**



The majority of waste water systems were situated on-site (61%) while the bulk of the remainder (37%) had council systems. Only one respondent (2%) did not know what type of discharge they had. This response is likely to be a result of city children attending a rural school, however there is a possibility that some rural respondents thought they were connected to a council system.

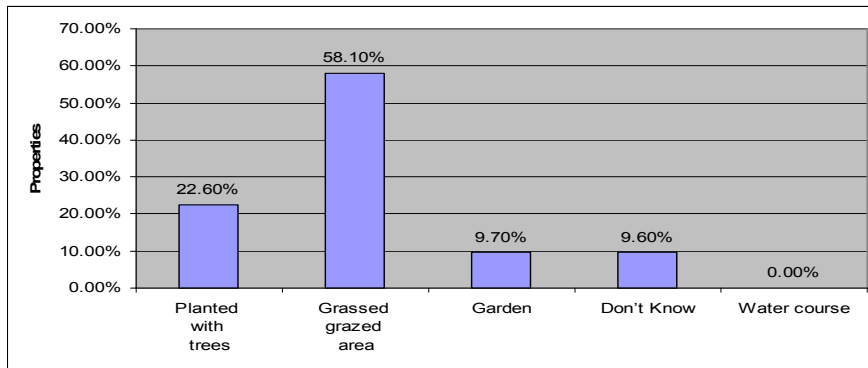
**Q2. What method of wastewater discharge is used by your system?**



\*Low Pressure Effluent Distribution

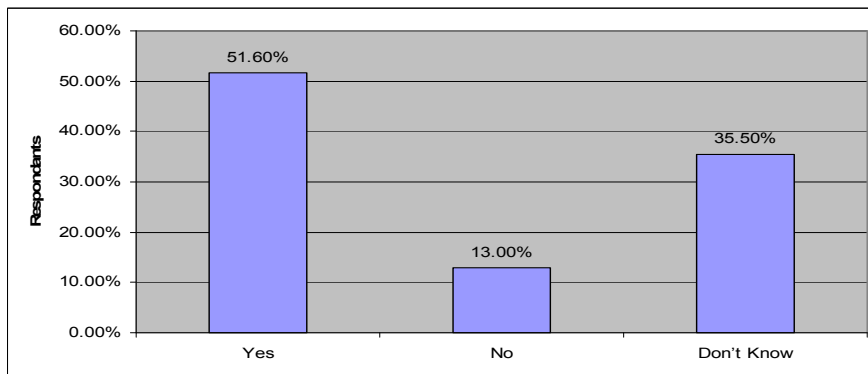
Although the respondents' knowledge of which type of wastewater system they had was good, it was a little less clear where the wastewater was discharged after it had passed through the system. Just over 16% of respondents did not know by what means their wastewater was discharged. It is also possible that respondents referred to trenches as soak pits. (council system users have not been included).

**Q3. Do you know where your wastewater is discharged?**



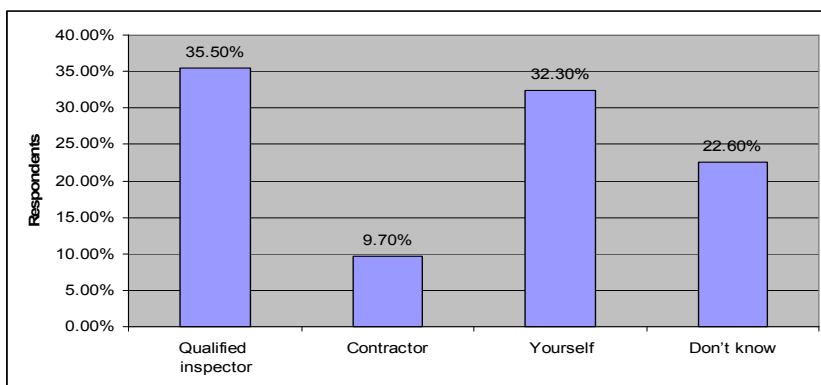
The answers to question three showed the respondents generally had a good understanding of where their wastewater was being discharged, but nearly 10% had no knowledge of where the water was going after it had been used (council system users have not been included).

**Q4. Does your wastewater system have a filter?**



From the results of question four it can be seen that over 35% of respondents did not know whether or not a filter was fitted to their wastewater system. This knowledge could be thought of as quite fundamental to the efficient running of their system (council system users have not been included).

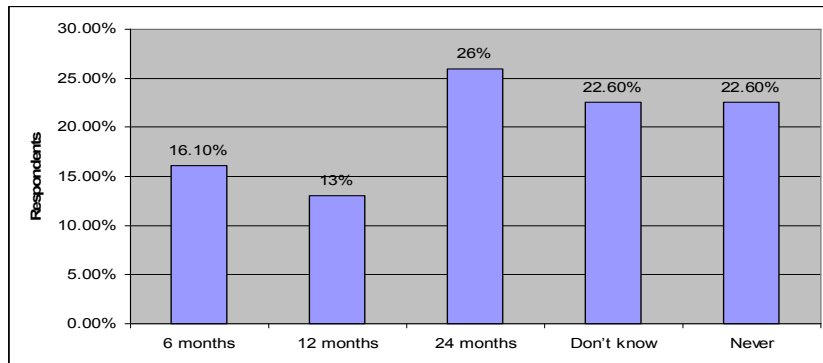
**Q5. Who inspects your wastewater system?**



Question 5 shows that nearly 23% of respondents did not know who, if anyone, inspects their wastewater system while nearly 33% said they undertook their own inspection. From the raw data it can be seen that three of the respondents who undertook their own inspection did not

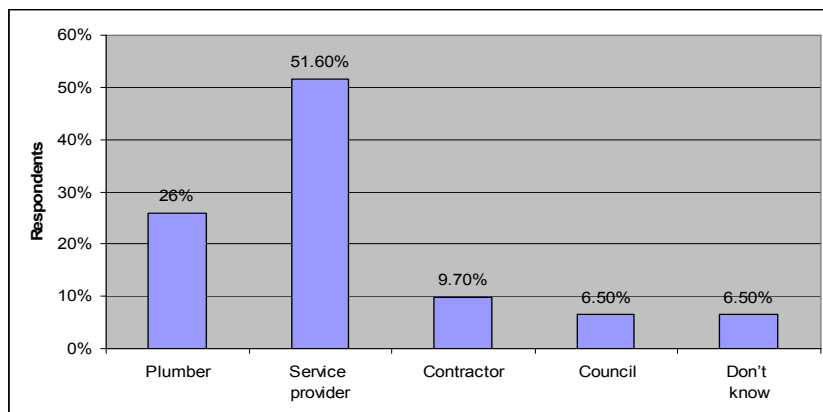
know whether or not their system had a filter installed (Q4) (council system users have not been included).

**Q6. How often is your wastewater system inspected?**



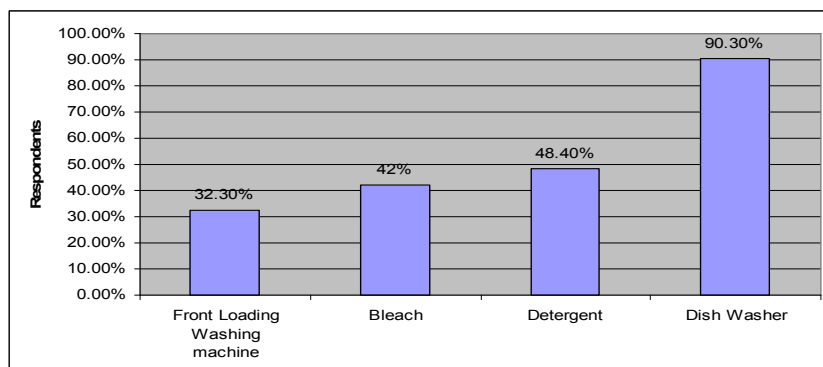
From question 6 it can be seen that a high percentage of respondents did not know how often their wastewater systems were inspected and the same percentage said their wastewater systems were never inspected (council system users have not been included).

**Q7. Who do you call if your system fails?**



It can be seen in the above figure that over 50% of respondents would call their service provider while 6.5% would not know who to call in the event of a system failure. It can be seen that 6.5% of respondents would call the council even though they are not connected to the council system (council system users have not been included).

**Q8. Which of the following do you use at home?**



As can be seen from the above figure there is a significant amount of bleach and detergent being used by the surveyed group. These chemicals are disposed of through the wastewater systems (council system users have not been included).

## **DISCUSSION**

Many problems arising from domestic wastewater systems could be avoided if a greater awareness of basic technical aspects regarding wastewater systems could be nurtured. With regard to this, the survey found that nearly 36% of respondents (not including council system users) did not know whether or not their system had a filter fitted and 42% said they regularly put bleach down the sink or toilet.

There is the potential that a regular dose of bleach or detergent use may impact on the performance of the wastewater systems. Added to this it was found that nearly 23% of the sample group never have their wastewater systems inspected and of those that did 32.3% do it themselves including some of those who didn't know if their wastewater system incorporated a filter or not. This demonstrates a lack of understanding about their systems and a possible attempt to provide answers that they think are more 'right' rather than what is actually happening.

The limited response to the survey (41%) may be due to several factors. The more likely reasons are that wastewater is not a priority for most people and only becomes an issue when problems arise. Further people just do not know enough about their wastewater systems to allow them to be confident enough to return the questionnaire.

## **LIMITATIONS**

The survey targeted a small group of 120 properties with only 41% returning the questionnaire. As with all surveys it would be preferable in future to target a larger group. The type of questions asked can also be a limitation. It is difficult to set the level of questions to a varied group of people. Some people will be very aware of how their wastewater system works and others less so. In future surveys more options could be provided in the answers and there would always be the option of 'Don't Know' for every question

## **CONCLUSIONS**

The main conclusions that can be drawn from this survey are as follows:

- The public have a lack of knowledge regarding the design and maintenance of their wastewater systems.
- If a technical problem arises a significant number of people do not know who to contact in the first instance.
- There is a lack of awareness about the damage certain products such as bleach can cause to their wastewater system.
- There is a lack of interest in domestic wastewater disposal among the general public and only becomes an issue when problems arise.

- The importance of how people dispose of their wastewater should be highlighted. Information on maintenance and care for domestic wastewater systems should be provided by local councils
- The possible negative environmental and public health effects of a poorly maintained wastewater system are not well known and should be highlighted.