

#### 5.4.2 Non-reticulated

It is not possible at this time to accurately comment on the performance of the non-reticulated wastewater systems operating in the region. This is due to the lack of regulation on the ongoing operation of these systems.

### 5.5 The Present Situation

#### Reticulated

##### Wet Weather Flows

Council is addressing the above issues of wet weather overflows through:

- The Interceptor Upgrade Project, which investigates Wellington's trunk wastewater system with a view to implement solutions to overflow and capacity problems that currently exist
- The Drainage Rehabilitation Policy 1993 ensures the wastewater system is effectively maintained and upgraded as required
- The Lateral Policy 1993. This entails the Council taking responsibility for the structural maintenance of the private laterals located in road reserve. The intention of this policy is to reduce stormwater pollution caused by the wastewater leaking from private laterals
- The Sewage Pollution Elimination Project 1993 (SPE). The project is driven by 11 resource consents for the discharge of wastewater contaminated stormwater into the Harbour and South Coast. The project calls for considerable works to be carried out to reduce overflows, improve wet weather performance and upgrade the wastewater system.

### 5.5.2 Non-reticulated

#### System efficiency

In preparing this assessment the lack of information on septic tank performance in non-reticulated communities was highlighted. To help address this issue Council sent questionnaires (Appendix 3) regarding septic tank use and maintenance to all those properties where no wastewater reticulation existed. According to Council records 264 homes and 5 businesses were identified however only 69 (26%) responses were received.

<b>Septic Tanks</b>	65
<b>BioCycle</b>	1
<b>Greywater soak pits +composting toilet</b>	3
<b>Dimensions</b>	62% unknown
<b>Age</b>	2-40+ yrs
<b>Measured sludge depth</b>	67% never
<b>Measured scum thickness</b>	73% never
<b>Frequency of cleaning and how</b>	17 never
	48 professionally
<b>Experience any problems</b>	None

Table 6. The responses to the questionnaire regarding cleaning and maintenance of septic tanks

Table 6 highlights the responses. All of the houses have individual wastewater systems. Though no responses identified any problems with their tanks, the responses to the question regarding repairs shows problems with blocked pipes, tree roots causing failures and tanks at their optimum capacity. Poorly maintained and operated septic tanks often result in problems with discharges on to land and waterways.

#### Quality

Council is aware of septic tanks in Horokiwi, Makara and Ohariu Valley that may not work efficiently leading to contamination of receiving waters. The effectiveness of septic tanks presents both a public health and environmental risk through contamination of watercourses.

Figures obtained from GWRC indicate that the water quality of Makara Stream is not as good as it could be. In particular *Faecal coliform* counts have been high in recent years. Though it is uncertain where the main source of such contamination is from, potential sources include run off from farms adjacent to the river, and discharge from failing septic tanks.

MfE Microbiological Water Quality Guidelines consider a single freshwater sample greater than 550 *E. coli*/100 mL to represent a public health issue. Table 7 shows the GWRC *Faecal coliform* medians from the last 10 years. Monitoring was for *Faecal coliforms*, but for comparative assessment with MfE guidelines, results have been converted to approximate *E. Coli* counts, based on the average *E. Coli* count being equal to *Faecal coliforms* (S Lewis, Earth Matters *pers com*).

Site	Median <i>Faecal coliforms</i> /100mL (1994-2004)
Ohariu Stream	490
Makara 1 km above mouth	1095
Makara Stream	990
Karori Stream	1000

Table 7. Stream quality data with a view to the influence of failing septic tanks on water quality.

With the exception of Ohariu Stream all these results are twice the MfE action levels for freshwater.

Despite this there is no current evidence of disease or illness due to inadequate disposal of wastewater effluent in these non-reticulated areas, though there is the potential for illness and/ or disease in these non-reticulated areas due to inadequate disposal of wastewater.

It is recommended that an assessment as to how much impact the performance of septic tanks is having on freshwater quality and if the current level of *Faecal coliforms* present in local streams is acceptable be undertaken.

There are currently no ongoing maintenance or monitoring requirements placed on the operation of septic tanks.

### Quantity

The adequacy of existing facilities such as septic soakage levels is unclear due to the lack of information regarding the performance of septic tanks.

GWRC are at present preparing a database of existing septic tanks characteristics. Also the MfE is looking at introducing septic tank “warrants of fitness” legislation. This will require Council to investigate and understand the problems of septic tanks.

## 5.6 Wastewater Risks

Council is aware that buried infrastructure has inherent risks associated with it. However it is not just the buried infrastructure as there are inherent risks associated with natural events, such as earthquakes and rainfall. A risk assessment for the wastewater asset is covered in the Sewerage (Wastewater) AMP (2004). Council has an Emergency Management Plan to deal with the risks of service failure associated with earthquakes, extreme weather and other events. These Plans formulate controls and procedures to deal with these risks. This section is an overview of the predominant risks.

### 5.6.1 Reticulated

Quantity	Level of Risk
Asset failure resulting in overflows	Moderate
Uncontrolled trade waste discharges	Moderate
Treatment plants overloaded- unable to manage inflow	Moderate
Increases in I/I	Moderate

The risk of overloading the wastewater system is being mitigated through:

- Drainage Rehabilitation Strategy (1993) based on the approach of the authoritative United Kingdom Water Research Centre. This includes the Critical Drain Strategy and underpins the maintenance strategy and the decision process for renewals and upgrades