Proposed Waikato Regional Plan Change 1 – Waikato and Waipa River Catchments.

SubForm	PC12016	COVER SHEET	
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		Submission Number	
Entered		Initials	
File Ref		Sheet 1 of	

Submission form on publicly notified – Proposed Waikato Regional Plan Change 1 – Waikato and Waipa River Catchments.

FORM 5 Clause 6 of First Schedule, Resource Management Act 1991

SUBMISSIONS CAN BE	
Mailed to	Chief Executive, 401 Grey Street, Private Bag 3038, Waikato Mail Centre, Hamilton 3240
Delivered to	Waikato Regional Council, 401 Grey Street, Hamilton East, Hamilton
Faxed to	(07) 859 0998 ***Please Note:*** *If you fax your submission, please post or deliver a copy to one of the above addresses*
Emailed to	healthyrivers@waikatoregion.govt.nz ***Please Note:*** *Submissions received my email must contain full contact details. We also request you send us a signed original by post or courier.*
Online at	www.waikatoregion.govt.nz/healthyrivers
We need to receive your submission by 5pm, 8 March 2017.	

YOUR NAME AND CONTACT DETAILS		
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TRADE COMPETITION AND ADVERSE EFFECTS *(select appropriate)*

☐ I could / ☐ ~~could~~ not gain an advantage in trade competition through this submission.

☐ I ~~am /~~ ☐ am not directly affected by an effect of the subject matter of the submission that:
(a) adversely effects the environment, and
(b) does not relate to the trade competition or the effects of trade competition.
Delete entire paragraph if you could not gain an advantage in trade competition through this submission.

THE SPECIFIC PROVISIONS OF PROPOSED PLAN CHANGE 1 THAT MY SUBMISSION RELATES TO

Please state the provision, map or page number e.g. Objective 4 or Rule 2.11.3.1
(continue on separate sheet(s) if necessary)

ALL. I wish all provision's to be amended to include +all environmental pollutants incurred from all aggravating services that have not been investigated as co polluters of water ways and included.———

I SUPPORT OR OPPOSE THE ABOVE PROVISION/S

(Select as appropriate and continue on separate sheet(s) if necessary.)

☐ Support the above provisions

☐ Support the above provision with amendments

☐ Oppose the above provisions in its present form

MY SUBMISSION IS THAT

Tell us the reasons why you support or oppose or wish to have the specific provisions amended.
(Please continue on separate sheet(s) if necessary.)

Aggravating factors not addressed are as follows;

1/ City / town storm water pouring directly into water ways unchecked. (Chlorine, rubbish, oil, antifreeze etc)

2/ Highway / road runoff pouring directly into water ways unchecked. Photos at Huntly by the late Max Monkley

3/ Carp an invasive pest. Reports Waikato University

4/ Catfish an invasive pest. Reports Waikato University

5/ Septic Tanks, report Ministry for the Environment, up to 86% failure. Included report

6/. Toxic Paving, reports available

7/ Leaching from land fills

8/ Fumigants and packaging (the likes of horticultural packing) Reports available

9/ Sewage treatment plants. They are releasing the following environmentally (some), damaging products.

A/ Chlorinated water. Reports available

B/ Fluoride. Reports available

C/ Microfibres, Reports available

D/ Fabric softeners. Reports available

E/ Cleaning products, anti-bacterial and bleaches, Reports available.

F/ Food preservatives.

G/ Pharmaceutical's, Reports available.

E Micro beads, reports available.

The Waikato River, upstream from the Hamilton gardens the river bed is visible and at the Pukete boat ram. Ankle deep

Feet are visible. Water the colour of urine and knee deep feet are not visible. No farms or farm runoff in that area. Maybe all of the above are degrading the water quality more than farms.

I SEEK THE FOLLOWING DECISION BY COUNCIL

(select as appropriate and continue on separate sheet(s) if necessary.)

- ☐ Accept the above provision
- ☐ Accept the above provision with amendments as outlined below
- ☐ Decline the above provision
- ☐ If not declined, then amend the above provision as outlined below

Amend as follows: *I seek a full investigation of ALL contributing factors to the state of our water ways. If Council accept the recommendations as they are more the 80 years will be required to partially clean the water and aqua system and I don't think we have that amount of time. If all contributing factors are addressed I can see a 75% cleaner water ways in 15 years*

PLEASE INDICATE BY TICKING THE RELEVANT BOX WHETHER YOU WISH TO BE HEARD IN SUPPORT OF YOUR SUBMISSION

- ☐ I wish to speak at the hearing in support of my submissions.
- ☐ ~~I do not wish to speak at the hearing in support of my submissions.~~

JOINT SUBMISSIONS

- ☐ If others make a similar submission, please tick this box if you will consider presenting a joint case with them at the hearing.

IF YOU HAVE USED EXTRA SHEETS FOR THIS SUBMISSION PLEASE ATTACH THEM TO THIS FORM AND INDICATE BELOW

- ☑ Yes, I have attached extra sheets.
- ☐ ~~No, I have not attached extra sheets.~~

SIGNATURE OF SUBMITTER

(or person authorised to sign on behalf of submitter)

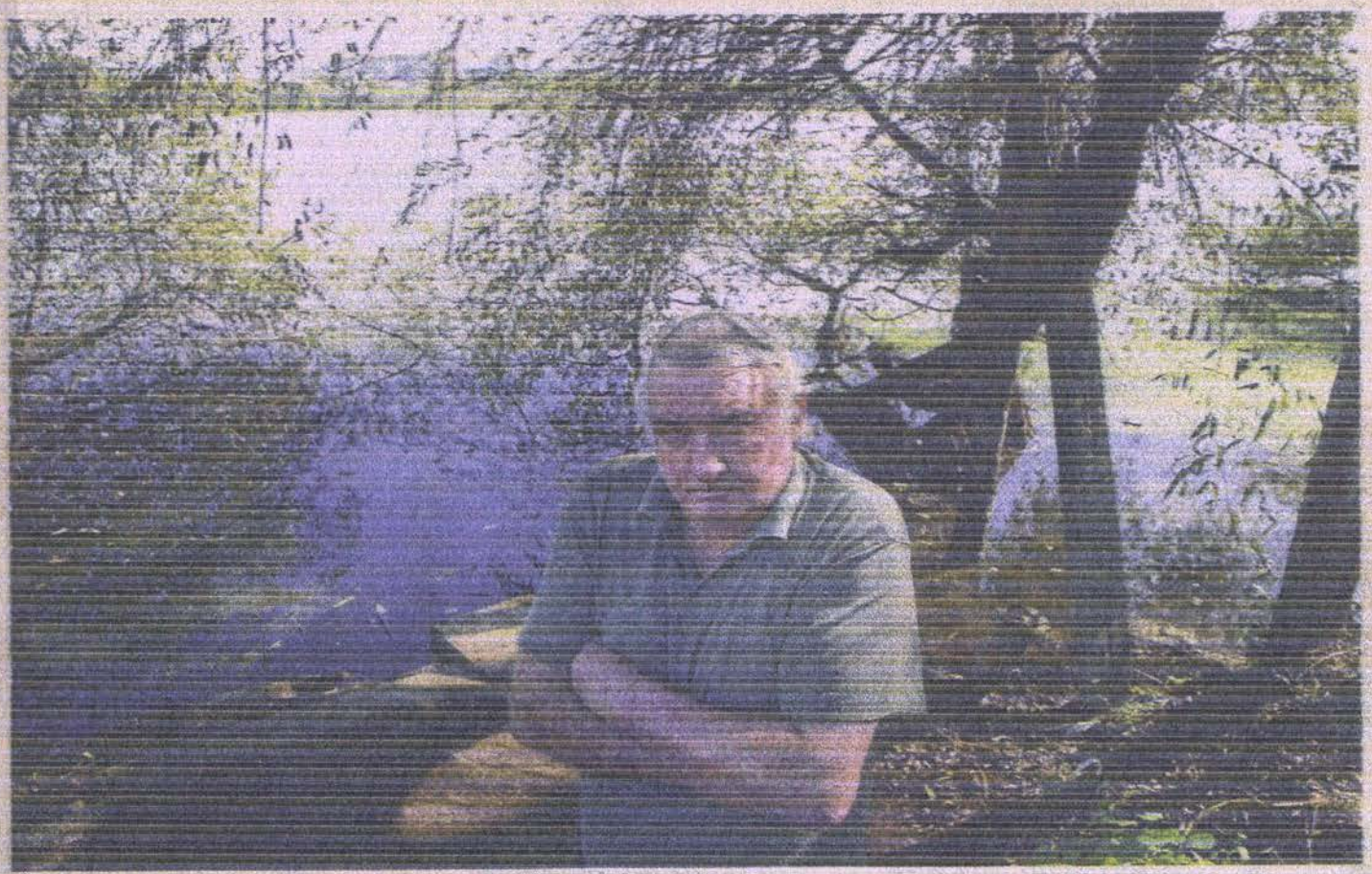
A signature is not required if you make your submission by electronic means

Signature 

Date 8-3-2017

Personal information is used for the administration of the submission process and will be made public. All information collected will be held by Waikato Regional Council, with submitters having the right to access and correct personal information.

PLEASE CHECK that you have provided all of the information requested and if you are having trouble filling out this form, phone Waikato Regional Council on 0800 800 401 for help.



Max Monkley fumes over the filthy state of the lower Waikato River at Huntly.

PHOTO: MARK TAYLOR/FAIRFAX NZ

Water filth hampers river's potential

ELTON RIKIHANA SMALLMAN

The river outside Max Monkley's Huntly home is filthy and he wants something done about it.

The builder of the iconic replica paddle steamer, the MV Waipa Delta, sees potential in the lower reaches of the Waikato River but his vision of boats plying the water and anglers hauling in river fish is hampered by willow clogged river banks.

"You can make Huntly like Rotorua," Monkley said.

"There's all sorts you can do here but it needs to be cleaned up. What do you do?"

Huntly, his home since moving back to New Zealand from Malaysia last year, is within striking distance of Auckland, Hamilton and Tauranga.

State Highway 1 will bypass it by 2020 leaving it ripe for development and there is a river full of sport fish and tourism potential.

But the run-off from the main road trickles under his property to the already murky, slow flowing water next to his boat building shed.

Something has to be done, he said, to give people a reason to stop.

"That water comes from all of the road drains and things.

"That's bad, that's the shit we've got in this Huntly river. It stinks down here."

The lower Waikato starts downstream of Ngaruawahia and runs to Port Waikato.

In the recent Niwa report card, it was given the lowest water quality rankings in the entire catchment extending to Huka Falls near Taupo.

The main stem of the lower Waikato section of river was rated a C, the tributaries a C-minus.

Water clarity is degraded all year, the report says and extensive drainage and flood control degrades ecological integrity.

Lake Waahi was given a C-minus and lakes Whangape and Waikare were given D grades – the only bodies of water in the report with a D.

At a meeting of the Waikato Raupatu River Trust and Waikato Regional Council co-governance committee, council deputy chairwoman Tipa Mahuta questioned how much priority is placed on getting the lower Waikato up to scratch.

Regional council science and strategy director Tracey May said the shallow lakes of the lower Waikato – Te Kauwhata, Waikare and Whangape – were high priority.

Rehabilitation plans have begun.

3. What is the Problem?

3.1 Overview

Water quality in New Zealand is still comparatively good by international standards. However, there is evidence that quality is declining in areas that are dominated by agricultural and urban land use. Monitoring results from New Zealand's rivers over the past 15 years indicate a long-term trend towards increasing nutrient levels that are likely to have a negative impact on river ecosystems. Rivers and streams in urban and pastoral areas in particular have high levels of nutrient and faecal pollution. High levels of nitrates and bacteria in groundwater make water unsafe to drink and are particularly common in shallow, unconfined aquifers that are very vulnerable to pollution from land-use activities (Ministry for the Environment, 2007).

Although on-site wastewater systems are usually not seen as the main cause of pollution, they can and do contribute significantly to the deterioration in water quality in areas with sensitive environments or high densities of on-site systems. Apart from the environmental effects caused by the discharge of partially treated or untreated wastewater, failing on-site systems also pose a health risk to people through direct contact with untreated wastewater. This commonly results in gastro-intestinal upsets (enteric illnesses), but can also lead to more serious conditions caused by viruses and parasites. Children inadvertently playing in polluted areas are particularly at risk (see Figure 3 – note children's footprints and toys amongst the effluent).

Figure 3: A failed system with sewage effluent discharging onto a flower bed

Source: Photo courtesy of Far North District Council.

Text description of figure

It is estimated that in some regions at least 20 per cent of homes rely on on-site systems to treat and dispose of their domestic wastewater. In Southland, for example, 61 of 80 settlements treat their wastewater using septic tanks. With the current trend of subdividing farmland into lifestyle blocks, the number of on-site systems is likely to increase.

Ageing septic tanks still represent the majority of on-site systems currently in use in New Zealand homes. However, regardless of whether it is a new home equipped with a high-tech system capable of treating wastewater to a very high standard, or an existing home with an old septic tank, all on-site systems require regular attention to ensure they function effectively. Ongoing maintenance backed up by regular inspections can play a significant role in improving the performance of wastewater systems. Unfortunately, research shows that many people don't understand or recognise the importance of managing and maintaining their on-site system, and some are not even aware their wastewater is treated by an on-site system.

3.2 Performance of on-site systems: the current picture

There are about 270,000 domestic on-site systems in New Zealand (including around 60,000 used for holiday homes). The performance of these systems is variable. Failure rates of on-site systems for different communities are estimated to range from 15 to 50 per cent, which equates to between 40,000 and 130,000 failing systems nationally (COVEC Ltd, 2007). The large amount of variability in these estimates is due to the variation in local factors, including, geology, climate, design and installation, lot size, and the age of the community.

An analysis of sanitary surveys[4] carried out by local authorities indicates an estimated 250 unsewered communities in New Zealand have problems with their on-site systems. Of these, slightly over half were identified as known or highly likely to be at risk of failure, with the remainder identified as suspected to be at risk. This equates to approximately 42,000 homes in unsewered communities with a failing on-site system. This number does not include isolated rural dwellings

(EMS Ltd, 2007).

A selection of in-depth surveys by regional, district and city councils further highlights the overall bad performance of on-site systems.

- A survey of 3,251 systems in the Bay of Plenty found that 64 per cent of the systems surveyed failed an inspection (Graham and Futter, 2002).
- A survey around Lake Rotorua found that 77 per cent of septic tanks within the Rotokawa/Brunswick area did not comply with the Environment Bay of Plenty On-site Effluent Treatment Plan (1996). Ninety per cent of owners did not clean their on-site systems once per decade, contributing to the high nutrient load in Lake Rotorua. Water quality within streams and springs in the area showed high levels of faecal contamination.[5]
- Recent inspections of 2,000 properties on Waiheke Island (Auckland City Council) indicated that around 11 per cent had minor problems and a further 3 per cent had major problems.
- An assessment of on-site systems in Clevedon Village, Manukau, found that approximately 20 per cent of on-site systems were subject to failure at the time of the inspection and a further 10 per cent were considered potentially likely to fail. The survey highlighted that educating residents on the operation and maintenance of their systems could improve the situation (Ormiston Associates Ltd, 2007).

3.3 How do on-site systems fail?

In general, 'failure' is defined as the situation where inadequately treated wastewater enters groundwater or surface water, creating an environmental risk, or rises to the ground surface, creating a risk to human health. This can occur through:

- inadequate management of the system (eg, disposing of unsuitable items or chemicals)
- inadequate maintenance of the system (eg, not pumping out the tank when required)
- the septic tank leaking directly into the ground through cracks in the tank walls and joints
- the on-site system being connected, either intentionally or by accident, to stormwater pipes or open stormwater drains, leading to overloading
- the pipes in the disposal field becoming blocked, causing concentrated wastewater to discharge into the ground

- the disposal field soil not being permeable enough, causing wastewater to rise to the ground surface (run-off to surface waters or discharge directly into groundwater through large cracks in the soil is possible)
- the disposal field soil being too permeable (eg, coarse sands or gravels), allowing the wastewater to enter groundwater without adequate treatment in the unsaturated soil (removal of contaminants such as pathogens is much more effective in unsaturated than saturated soils)
- the disposal field being too close to the groundwater table (in high groundwater situations), allowing the wastewater to enter the groundwater without adequate treatment (contaminated groundwater can then flow into surface waters, contaminating those surface waters)
- the system not having enough capacity for the size of the dwelling.

3.4 Main causes of failure

To operate effectively, on-site systems (including the disposal field) must be designed and installed correctly, and (with new systems) operated in accordance with the manufacturer's guidelines. The property owner or occupier plays an important role in managing what goes into their system and making sure the system receives regular servicing and maintenance as and when required. Regular servicing and maintenance are crucial to ensuring a system continues to effectively treat domestic wastewater.

In many cases a lack of ongoing servicing and regular maintenance is contributing to the high numbers of failing systems. The reasons for this are varied, but often it is simply that the property owner or occupier does not know how to manage and maintain their system. Some failures are due to poor installation, or the siting of systems in inappropriate locations (eg, areas with high ground water). Others may have just reached the end of their effective life span and need replacing. Appropriate management and regular maintenance can help identify problems early and reduce the need for costly repairs, with the added benefit of improving the lifespan of what is a very expensive part of an unsewered home.

Figure 4 shows an overflowing gully trap with sewage flowing onto the ground and under the house. This failure is directly attributable to lack of maintenance. The system was six years old and had not been adequately maintained. A pump-out of the treatment tank to remove accumulated solids immediately fixed the problem. Systems often require pump-outs at three- to five-year intervals.

Figure 4: An overflowing gully trap due to inadequate maintenance

Source: Photo courtesy of Environment Bay of Plenty.

Text description of figure

3.5 Effects of failing on-site systems

The untreated or partially treated wastewater discharging from failing systems contains pathogens and nutrients that can be harmful to humans and the environment. These pathogens may include:

- bacteria such as *Escherichia coli* 0157 (*E. coli*), campylobacter, yersinia and shigella
- viruses such as norovirus and hepatitis A
- protozoa such as cryptosporidium and giardia.

Nutrients include:

- nitrates
- phosphorus
- sodium.

See Box 1 for further detail.

Box 1: Concentrations of bacteria and nutrients

Bacteria

E. coli is a bacterium that indicates the presence of faecal material in fresh water. This, in turn, indicates the presence of disease-causing (pathogenic) micro-organisms caused by discharges of treated human sewage (from wastewater plants, septic tanks or faulty sewerage systems) and dung from birds and animals.

A high concentration of *E. coli* indicates an increased risk of digestive and respiratory system diseases among people who come into contact with, or drink, the contaminated water. Very young children, the elderly, or people with impaired immune systems are particularly vulnerable to this risk. The health of livestock that drink contaminated water may also be affected.

Nutrients

Aquatic plants need many types of nutrients for growth, including nitrogen and phosphorus. This includes the dissolved forms of nitrogen (nitrate) and phosphorus (dissolved reactive phosphorus). However, increased levels of these nutrients in water bodies cause plant growth rates to increase excessively, especially if water flows, sunlight and temperature conditions are favourable. This can lead to algal blooms, as well as an over-abundance of aquatic weeds in river channels and on lake margins. Excessive algal or weed growth can reduce the recreational and aesthetic value of water bodies, and alter water quality (for example, by changing the acidity or oxygen levels).

Source: Ministry for the Environment, 2007.

Wastewater may accumulate on the ground, percolate into the groundwater or flow into nearby waterways. This poses public health risks and can cause damage to terrestrial and aquatic environments. The effects of untreated or partially treated effluent discharging to the environment can include:

- disease in people (especially young children) having direct contact with wastewater lying on the ground surface
- disease in people caused by drinking contaminated water (usually from shallow groundwater bores located near disposal fields)
- flies and mosquitoes breeding in ponded effluent
- methemoglobinaemia ('blue baby syndrome') caused by elevated nitrate concentrations in groundwater used for drinking-water
- disease in people (most often young children) from contact recreation (swimming and paddling) in contaminated stormwater drains, streams, lakes, estuaries and beaches
- disease in people caused by eating contaminated shellfish, either from private or commercial shellfish gathering (shellfish tend to concentrate the pathogens that occur in the water, making their consumption a higher risk than contact with the water itself)
- economic effects caused by having to close shellfish farms (even if no disease is actually caused)
- nuisance weed growth and/or algal blooms caused by elevated nutrient levels, which can have secondary effects on people and aquatic animals from algal toxin reactions
- deterioration of freshwater ecosystems due to reduced water quality

- permanent soil degradation caused by high levels of sodium and other salts from washing powders being disposed of through disposal fields.

Conservative estimates indicate that more than 100 streams and over 100 coastal sites are potentially being affected by effluent discharging from failing on-site systems (EMS Ltd, 2007). This is all contributing to the degradation of our water resources. The recent *Environment New Zealand 2007* report commented on the state of our surface water and groundwater resources (see Box 2).

Box 2: Effects on groundwater and surface water

Surface water

The median levels of nitrogen and phosphorus have increased in rivers within the national monitoring network over the past two decades. More specifically, over 1989–2003, there was an average annual increase in levels of total nitrogen and dissolved reactive phosphorus of 0.5 per cent to 1 per cent (Ministry for the Environment, 2006). While this increase may seem small, and is difficult to detect, it signals a long-term trend towards nutrient-enriched conditions that are likely to trigger undesirable changes to river ecosystems (Ministry for the Environment, 2007).

On a local level, for example, the Waiheke stream water quality has deteriorated in 11 out of 23 sites monitored by Auckland City Council with a median *E. coli* level exceeding the Ministry for the Environment and the Ministry of Health recreational guideline level (550 cfu/100 ml). Human activities have clearly accounted for the water contamination on the island and a proven relationship between on-site wastewater disposal and stream water pollution has been demonstrated for one location (Tang, 2007).

Groundwater

At a national scale, 61 per cent of groundwaters in New Zealand that are monitored have normal nitrate levels; the remainder have levels that are higher than the natural background levels, and 5 per cent have nitrate levels that make the water unsafe for infants to drink. Twenty per cent of monitored groundwater bodies have bacteria levels that make water unsafe to drink (Ministry for the Environment, 2007).

At a regional scale, increasing trends of nitrate are more widespread in some areas than others. Increasing nitrate concentrations have been reported in rural parts of Canterbury, probably due to the increasing intensity of human activities in the region, such as dairy farming and wastewater disposal

(Environment Canterbury, 2002).

The impact of individual discharges from on-site systems on the environment is often small in comparison with other activities. However, when the individual contributions of multiple systems are combined, the cumulative effect can often be quite significant. Lake Taupo is a well-documented example (see Box 3).

Box 3: Effects on Lake Taupo

Scientific evidence gathered over the past 30 years shows the development and intensification of the rural and urban land around Lake Taupo has increased the amount of nitrogen entering the lake through groundwater, streams and rivers. This has contributed to a reduction in water quality caused by increased algal and phytoplankton growth in the lake. Although domestic wastewater discharges represent a relatively small proportion of the nitrogen entering the lake, discharges from lakeshore community wastewater treatment plants and concentrations of on-site systems can have disproportionate effects upon shallow near-shore waters.

Source: Environment Waikato (www.ew.govt.nz).

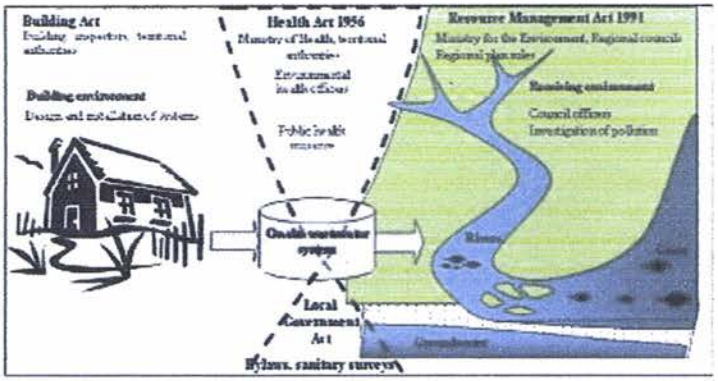
3.6 Existing controls for on-site systems

On-site systems are controlled by a number of pieces of legislation, including:

- the Building Act 2004 (through the Building Code)
- the Health Act 1956
- the Resource Management Act 1991 (RMA)
- Local Government Act 2002.

The Building Code has specific requirements covering the design and installation of on-site systems. In contrast, the Health Act has powers that can be invoked if an existing system is creating a nuisance or public health risk. The RMA controls the environmental effects of discharges from on-site systems.

Figure 5: Summary of the various controlling legislation for on-site wastewater management



Territorial local authorities exercise powers, duties and functions under the legislation shown on the left of Figure 5 (white area), and regional councils exercise powers, duties and functions under the legislation on the right (coloured areas).

In 2007, the Ministry for the Environment undertook a review of all regional plans and bylaws related to the consent status and maintenance provisions of on-site systems. The review found that the controls applied to on-site systems by local government vary. Some regional councils require resource consents and have comprehensive information for the public, while others permit all on-site systems through rules in their regional plans.[6] As a result, often a council may only become involved when serious problems have already occurred. The findings of the review are summarised in Tables 1 and 2 (for more detail, please refer to Appendix 2).

Table 1: Regional council consent status of domestic on-site systems in New Zealand (2007)

Permitted activity (existing and new systems)	Existing systems permitted, new systems require consent	Primary systems require consent, secondary systems permitted	New systems located in sensitive areas require consent
12 councils	3 councils	1 council	5 councils

Table 2: Local government management requirements for on-site systems

Council requirement	Regional councils	Territorial authorities
Regular pump-outs (compulsory)	2 (only for sensitive areas)	3 (through bylaws)

Systems maintained according to manufacturer's specifications (recommended)	2 (only for secondary systems)	
Systems maintained on a regular basis (recommended)	9	
No formal maintenance and inspections requirements (unless consented)	3	71

Only a handful of councils currently monitor the performance of on-site systems or have formal requirements for property owners to maintain their on-site systems. Councils are not able to directly recover the costs of monitoring permitted activities and have competing demands for limited financial resources for environmental monitoring. The result is that often councils simply don't have the ability to monitor activities such as discharges from on-site systems.

Environment Bay of Plenty (EBOP) is a regional council that does monitor the performance of on-site systems. EBOP's On-site Effluent Treatment Regional Plan evolved out of a need to reduce the well-documented impacts that domestic sewage discharged from on-site systems was having on the region's rivers, lakes and estuaries.

Marlborough District Council's plan change 7: "On-site Discharges of Domestic Wastewater" to the Marlborough Sounds Resource Management Plan was in response to poor water quality attributable to on-site systems. On-site systems were having an adverse effect on the significant marine farming and tourism industries that rely on a high standard of water quality in the Marlborough Sounds. However, the Council acknowledges there are still challenges with addressing ongoing management of onsite systems:

The Council's ability to respond to poorly performing or failing systems under the Resource Management Act is limited to instances of non-compliance with permitted activity rules and resource consents.

Although communities may see on-site sewage treatment systems as a problem, they may have prioritised other issues in their regional plans and local bylaws. The Ministry for the Environment considers that, as a result of poor performance, a higher priority should be given to addressing the performance of on-site systems. To this extent, the current regulatory regime is failing to recognise the significance of the

problem.

3.7 Case studies: regulating on-site systems in New Zealand

The following case studies illustrate different approaches to regulating on-site systems in New Zealand. The first illustrates the use of a bylaw (under the Local Government Act) to manage all aspects of on-site systems, from installation to operation and repair. The second example illustrates how regional plan rules have been developed to address contamination in sensitive environments.

3.7.1 Far North District Council bylaw[8]

The Far North District Council (FNDC) bylaw requires that all on-site systems be "installed, repaired, extended, operated and maintained, in a safe and sanitary manner, with no, or minimum adverse effects on the surrounding natural environment, or are a health nuisance, and in a manner that is culturally sensitive". FNDC conducted an on-site system survey at Okiato Point, which found that stormwater drains contained unacceptable concentrations of *E. coli* and faecal coliforms. As a result, FNDC initiated a programme of septic tank cleaning. After the cleaning, sampling showed a significant drop in the *E. coli* and faecal coliform count, which suggested that the previous high bacterial readings were partly due to the lack of maintenance of on-site systems.

Following the findings at Okiato Point, further surveys in other areas showed a similar pattern, with a lack of maintenance leading to some serious failures. In addition, another survey demonstrated that levels of maintenance were generally quite low, and that approximately 10 per cent of all surveyed systems posed a risk to the environment and the general public.

After assessing different options, FNDC decided the best alternative was to adopt a model bylaw, to ensure continual operation, adequate installation, maintenance and regular pump-outs of on-site systems. Given there are areas of socio-economic deprivation in the Far North,

problem.

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After assessing different options, FNDC decided the best alternative was to adopt a model bylaw, to ensure continual operation, adequate installation, maintenance and regular pump-outs of on-site systems. Given there are areas of socio-economic deprivation in the Far North, implementing a bylaw that puts the onus on property owners to pay to have their tanks cleaned out and serviced regularly was very challenging. FNDC worked in partnership with Housing New Zealand and Work and Income New Zealand to provide subsidy assistance, either to property owners who could not afford the pump-out maintenances fee or in circumstances where the system had failed and needed total replacement.

3.7.2 Rotorua Lakes – Environment Bay of Plenty[9]

Environment Bay of Plenty has regional plan rules in effect that are similar to what is proposed in the following sections. Lake-water quality has been monitored in the coastal area of the Bay of Plenty and Rotorua district lakes by Environment Bay of Plenty since 1990. For

many decades Rotorua lakes have been under increasing pressure from human activities such as residential settlement and farming, and it was considered that wastewater from lakeside communities was a contributing factor. Investigations into septic tanks showed that Bay of Plenty had many households with old and basic septic tanks. In some areas septic tanks were failing, leading to contamination (high levels of pathogens and nutrients) of fresh and coastal waters. According to the study, lack of maintenance of septic tanks was a major reason for this pollution.

Environment Bay of Plenty developed the Operative On-site Effluent Treatment Regional Plan with the aim of reducing adverse environmental impacts. The plan created the On-site Wastewater Treatment and Disposal Inspection and Certification Programme to protect the quality of the environment while guaranteeing better management of septic tanks. Under the Certification Programme, Environment Bay of Plenty certifies septic tank inspectors, who can issue certificates of compliance for properly functioning septic tank systems. The plan also has rules to identify communities where the environmental effects of septic tanks are unacceptable, and requires a compulsory maintenance regime including pump-outs every three or six years (depending on whether or not an outlet solids filter is fitted) in identified communities serviced by septic tanks.

3.8 Case study: regulating on-site systems in New South Wales, Australia[10]

This example provides another approach to managing on-site systems. In 1998 the New South Wales Government introduced a package of local government regulatory reforms and guidelines to enable more effective council regulation and performance supervision of small domestic sewage management facilities. Councils are required to regulate the installation and operation of on-site sewage management systems. Regulations specify performance standards and require councils to supervise the operation of on-site sewage management systems.

All landowners with on-site sewage management systems are required to obtain an approval to operate from the council, and to maintain and manage their systems in accordance with health and environmental performance standards based on a risk assessment of the sensitivity of the environment, as follows.

- In high-risk areas the council may determine that septic systems require regular function checks to ensure they are working properly and that sewage pollution is not occurring.
- In medium-risk areas landowners may be asked to arrange regular function checks themselves and to report the results to the council

from time to time.

- In lower-risk areas councils may provide long-term approvals or conditional exemption from approval, provided landowners keep systems well maintained.

3.9 Problem statements

The following problem statements summarise the issues that have given rise to the Proposed National Environmental Standard for On-site Wastewater Systems.

1. A large number of on-site systems in New Zealand are not performing in a way that provides acceptable levels of treatment of domestic wastewater.
2. Failing on-site systems are causing adverse effects on the environment and creating risks to human health by:
    - direct contact with overflowing or ponding effluent
    - leading to contamination of groundwater and surface-water supplies, which affects the quality of drinking-water supplies and may increase the occurrence of algal blooms
    - contributing to lakes, rivers, estuaries and beaches becoming unfit for swimming, gathering seafood and marine farming.
3. The current regime is failing to recognise or address the significance of the problem, and regional councils and territorial local authorities lack the tools to proactively seek to minimise adverse environmental and health effects from failing on-site systems.
4. Inadequate management, including a lack of ongoing servicing and regular maintenance, is a primary cause of the high number of failing systems in New Zealand.

Questions

1. Have the problems been defined correctly?
2. Are there other problems you can think of?
3. What is the magnitude of these problems?

10 *Source: Septic Safe, NSW Department of Local Government.*

4 *Section 125 of the Local Government Act 2002 places a requirement on local authorities to carry out water and sanitary services assessment for their districts. As part of those assessments, the local authorities are required to assess the current state of wastewater treatment systems in communities not serviced by reticulated wastewater treatment systems.*

5 Rotorua *Lakeside Community Sewerage Scheme Funding Proposal.*

6 *Permitted activities do not require resource consent for the activity to legally occur, but may depend on certain conditions being met. For example, an on-site system may have to*

be located at least 25m from a stream. The discharge from an on-site system is subject to section 15 of the RMA, which is administered by regional councils and controlled through rules in regional plans.

7 Plan Change 7 to the Marlborough Sounds Resource Management Plan.

8 Source: Briefing Document, Far North District Council.

8 Source: Briefing Document, Far North District Council.

9 Source: Environment Bay of Plenty (www.envbop.govt.nz/).

9 Source: Environment Bay of Plenty (www.envbop.govt.nz/).

10 Source: Septic Safe, NSW Department of Local Government.

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‹ 2. What are On-site Wastewater T... 4. What are the Options? ›