

STDC Wai-inu Beach Settlement
Monitoring Programme
Annual Report
2017-2018

Technical Report 2018-06

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Executive summary

The South Taranaki District Council (STDC) operates a sewage treatment system located at the Wai-inu Beach Settlement, in the Waitotara catchment. This report for the period July 2017 to June 2018 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess STDC's environmental performance during the period under review. The report also details the results of the monitoring undertaken and assesses the environmental effects of STDC's activities.

STDC holds one resource consent in relation to the sewage treatment system, which includes a total of 16 conditions setting out the requirements that STDC must satisfy. This resource consent was renewed early on 1 December 2017, as STDC is in the process of upgrading the wastewater treatment system.

During the monitoring period, STDC demonstrated an overall high level of environmental performance.

The Council's monitoring programme for the year under review included three site inspections, with associated bacteriological sampling of seawater.

The monitoring showed that the wastewater treatment system was well maintained. As in previous years, the monitoring indicated that the exercise of resource consent 3769 was not having an adverse effect on the environment. There were no Unauthorised Incidents recording non-compliance in respect of this consent holder during the period under review.

During the 2017-2018 monitoring year, STDC demonstrated a high level of environmental and administrative compliance with their resource consent.

For reference, in the 2017-2018 year, consent holders were found to achieve a high level of environmental performance and compliance for 76% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 20% of the consents, a good level of environmental performance and compliance was achieved.

In terms of overall environmental and compliance performance by the consent holder over the last several years, this report shows that the consent holder's performance remains at a high level.

This report includes recommendations for the 2018-2019 year.

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1 Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is for the period July 2017 to June 2018 by the Taranaki Regional Council (the Council) describing the monitoring programme associated with a resource consent held by the South Taranaki District Council (STDC). The consent relates to the operation of a wastewater treatment system situated at the Wai-inu Beach Settlement in South Taranaki.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consent held by the STDC for the discharge of treated sewage effluent to groundwater in the Waitotara catchment. This is the 25th report to be prepared by the Council to cover the discharge and its effects.

1.1.2 Structure of this report

Section 1 of this report is a background section. It sets out general information about:

- consent compliance monitoring under the *Resource Management Act 1991* (RMA) and the Council's obligations;
- the Council's approach to monitoring sites through annual programmes;
- the resource consent held by STDC;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted in the Wai-inu Beach Settlement.

Section 2 presents the results of monitoring during the period under review, including scientific and technical data.

Section 3 discusses the results, their interpretations, and their significance for the environment.

Section 4 presents recommendations to be implemented in the 2018-2019 monitoring year.

A glossary of common abbreviations and scientific terms, and a bibliography, are presented at the end of the report.

1.1.3 The Resource Management Act 1991 and monitoring

The RMA primarily addresses environmental 'effects' which are defined as positive or adverse, temporary or permanent, past, present or future, or cumulative. Effects may arise in relation to:

- a. the neighbourhood or the wider community around an activity, and may include cultural and social-economic effects;
- b. physical effects on the locality, including landscape, amenity and visual effects;
- c. ecosystems, including effects on plants, animals, or habitats, whether aquatic or terrestrial;
- d. natural and physical resources having special significance (for example recreational, cultural, or aesthetic); and
- e. risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Council is recognising the comprehensive meaning of 'effects' inasmuch as is appropriate for each activity.

Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the RMA to assess the effects of the exercise of consents. In accordance with Section 35 of the RMA, the Council undertakes compliance monitoring for consents and rules in regional plans, and maintains an overview of the performance of resource users and consent holders. Compliance monitoring, including both activity and impact monitoring, enables the Council to continually re-evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region's resources.

1.1.4 Evaluation of environmental and administrative performance

Besides discussing the various details of the performance and extent of compliance by STDC, this report also assigns them a rating for their environmental and administrative performance during the period under review.

Environmental performance is concerned with actual or likely effects on the receiving environment from the activities during the monitoring year. Administrative performance is concerned with STDC's approach to demonstrating consent compliance in site operations and management including the timely provision of information to Council (such as contingency plans and water take data) in accordance with consent conditions.

Events that were beyond the control of the consent holder and unforeseeable (that is a defence under the provisions of the RMA can be established) may be excluded with regard to the performance rating applied. For example loss of data due to a flood destroying deployed field equipment.

The categories used by the Council for this monitoring period, and their interpretations, are as follows:

Environmental Performance

High: No or inconsequential (short-term duration, less than minor in severity) breaches of consent or regional plan parameters resulting from the activity; no adverse effects of significance noted or likely in the receiving environment. The Council did not record any verified unauthorised incidents involving significant environmental impacts and was not obliged to issue any abatement notices or infringement notices in relation to such impacts.

Good: Likely or actual adverse effects of activities on the receiving environment were negligible or minor at most. There were some such issues noted during monitoring, from self reports, or in response to unauthorised incident reports, but these items were not critical, and follow-up inspections showed they have been dealt with. These minor issues were resolved positively, co-operatively, and quickly. The Council was not obliged to issue any abatement notices or infringement notices in relation to the minor non-compliant effects; however abatement notices may have been issued to mitigate an identified potential for an environmental effect to occur.

For example:

- High suspended solid values recorded in discharge samples, however the discharge was to land or to receiving waters that were in high flow at the time;
- Strong odour beyond boundary but no residential properties or other recipient nearby.

Improvement required: Likely or actual adverse effects of activities on the receiving environment were more than minor, but not substantial. There were some issues noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent minor non-compliant activity could elevate a minor issue to this level. Abatement notices and infringement notices may have been issued in respect of effects.

Poor: Likely or actual adverse effects of activities on the receiving environment were significant. There were some items noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent moderate non-compliant activity could elevate an

'improvement required' issue to this level. Typically there were grounds for either a prosecution or an infringement notice in respect of effects.

Administrative performance

High: The administrative requirements of the resource consents were met, or any failure to do this had trivial consequences and was addressed promptly and co-operatively.

Good: Perhaps some administrative requirements of the resource consents were not met at a particular time; however this was addressed without repeated interventions from the Council staff. Alternatively adequate reason was provided for matters such as the no or late provision of information, interpretation of 'best practical option' for avoiding potential effects, etc.

Improvement required: Repeated interventions to meet the administrative requirements of the resource consents were made by Council staff. These matters took some time to resolve, or remained unresolved at the end of the period under review. The Council may have issued an abatement notice to attain compliance.

Poor: Material failings to meet the administrative requirements of the resource consents. Significant intervention by the Council was required. Typically there were grounds for an infringement notice.

For reference, in the 2017-2018 year, consent holders were found to achieve a high level of environmental performance and compliance for 76% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 20% of the consents, a good level of environmental performance and compliance was achieved.

1.2 Process description

The Wai-inu Beach Settlement treatment system was designed to service a population of approximately 420 persons. Communal septic tanks of 3,600 L capacity treat wastes from a maximum of four residential sections per septic tank. Effluent from the septic tanks is gravity fed to an underground dosing chamber of sufficient storage to allow the alternative dosing, via pumps, of two sand filter beds. The pumps are operated automatically by float switches and provide a dose volume of approximately 14 m³ to the surface of one or other of the filter beds. These filter beds are about 15.6 m in diameter and are comprised of layers of coarse sand, pea gravel and graded stone chip. The filter media provides a limited amount of biological filtration of the effluent prior to discharge to groundwater.

This is a simple and effective treatment system; provided the septic tanks receive regular maintenance to prevent gross solids from clogging the filter system and the filter beds are not overloaded. The filter beds are essentially an aerated treatment device and when saturated for long periods, anaerobic conditions can occur, causing excessive and pungent odour. Weed growth on top of the sand filter beds also needs to be monitored and removed on a regular basis.

The shallow groundwater receiving the treated effluent flows more than 200 m toward the beach; the measurement of coastal seawater quality allows the effectiveness of the effluent treatment system to be assessed (Figure 1). The Wai-inu beach settlement is supplied with water from a bore (45 m deep) to the west of the settlement. There are no other users of shallow groundwater in the area.



Figure 1 Locations of coastal bacteriological sampling sites and treatment system at Wai-inu Beach Settlement

1.3 Resource consents

1.3.1 Water discharge permits

Section 15(1)(a) of the RMA stipulates that no person may discharge any contaminant into water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or by national regulations.

Up until 1 December 2017, STDC held water discharge permit **3769-3** to cover the discharge of up to 84 m³ per day of treated domestic wastewater from the Wai-inu Beach Settlement via seepage to groundwater in the Waitotara catchment. This permit was issued by the Council on 29 July 1992 under Section 87(c) of the RMA. It was reissued in November 2003 and was renewed on 1 December 2017. There were six special conditions attached to this version of the consent.

Condition 1 relates to the exercise of the consent being carried out in accordance with the information supplied in support of the application.

Condition 2 requires the consent holder to adopt the best practicable option to prevent or minimise any actual or potential effect on the environment.

Condition 3 relates to the proper and effective maintenance and operation of the treatment system, in particular the septic tank and filter beds.

Condition 4 requires monitoring of the treatment system and coastal waters.

Condition 5 requires the consent holder to provide the Council with a contingency plan.

Condition 6 deals with reviews of the consent.

STDC now holds water discharge permit **3769-4** to cover the discharge of up to 100 m³ per day of treated domestic wastewater from the Wai-inu Beach Wastewater Treatment Plant to land. This permit was issued by the Council on 1 December 2017 under Section 87(c) of the RMA, and expires on 1 June 2034. There are 16 special conditions attached to this consent.

Condition 1 relates to the exercise of the consent being carried out in accordance with the information supplied in support of the application.

Condition 2 requires the consent holder to adopt the best practicable option to prevent or minimise any actual or potential effect on the environment.

Condition 3 relates to the consent holder making any changes in the processes undertaken at the site.

Condition 4 deals with the maximum volume of discharge.

Condition 5 requires the consent holder to maintain a meter and datalogger at the site of discharge, and to make this data available on request.

Condition 6 deals with records of the discharge.

Condition 7 requires there to be no surface run-off, ponding or contamination of surface water resulting from the discharge.

Condition 8 relates to the proper and effective maintenance and operation of the treatment system.

Condition 9 relates to the location of the disposal field.

Condition 10 requires there to be no offensive or objectionable odour beyond the boundaries of the subject property.

Condition 11 relates to the sampling of treated effluent.

Condition 12 requires the consent holder to provide the Council with a contingency plan.

Condition 13 requires the consent holder to provide the Council with a management plan.

Condition 14 relates to the reporting of environmental monitoring undertaken in accordance with condition 13.

Condition 15 requires the consent holder to make a recommendation about the need for disinfection before 30 June 2021.

Condition 16 deals with reviews of the consent.

Copies of both permits are attached to this report in Appendix I.

This summary of consent conditions may not reflect the full requirements of each condition. The consent conditions in full can be found in the resource consent which is appended to this report.

1.4 Monitoring programme

1.4.1 Introduction

Section 35 of the RMA sets obligations upon the Council to gather information, monitor and conduct research on the exercise of resource consents within the Taranaki region. The Council is also required to assess the effects arising from the exercising of these consents and report upon them.

The Council may therefore make and record measurements of physical and chemical parameters, take samples for analysis, carry out surveys and inspections, conduct investigations and seek information from consent holders.

The monitoring programme for Wai-inu Beach Settlement site consisted of three primary components.

1.4.2 Programme liaison and management

There is generally a significant investment of time and resources by the Council in:

- ongoing liaison with resource consent holders over consent conditions and their interpretation and application;
- in discussion over monitoring requirements;
- preparation for any consent reviews, renewals or new consent applications;
- advice on the Council's environmental management strategies and content of regional plans; and
- consultation on associated matters.

1.4.3 Site inspections

The Wai-inu Beach Settlement site was inspected three times during the monitoring year. With regard to the consent for the discharge to water, the main points of interest were plant processes with potential or actual discharges to receiving watercourses, including contaminated stormwater and process wastewaters. Air inspections focused on plant processes with associated actual and potential emission sources and characteristics, including potential odour, dust, noxious or offensive emissions.

1.4.4 Bacteriological monitoring

The Council undertook routine sampling of the coastal waters at two sites on three occasions during the monitoring year (Figure 1).

Each sample was analysed for enterococci and conductivity. In 2003 the Ministry for the Environment (MfE) developed the Guidelines for recreational water quality to assess the safety of water for contact recreation. The guidelines use enterococci as the preferred indicator for the microbiological quality of marine waters. Alert mode occurs when a single sample maximum is greater than 140 enterococci cfu/100 ml. Action mode occurs when two consecutive samples are greater than 280 cfu/100 ml.

Table 1 Marine recreational bathing guidelines (MfE, 2003)

	Indicator	Mode		
		Surveillance	Alert	Action
Marine	Enterococci (cfu/100 ml)	No single sample > 140	Single sample > 140	Two consecutive single samples > 280

2 Results

2.1 Inspections

20 December 2017

Conditions were overcast, with a strong breeze. The camp was relatively quiet during the inspection, with two camping parties present on site, and five motorhomes present at Wai-inu Beach East.

There was a low-moderate level of weed cover on the eastern filter bed (<10%; Photo 1), and a low cover of weeds on the western bed (<5%). Ponding was not observed on either bed, and the ponds were not receiving wastewater at the time of the inspection.

Very mild sewage odours were detected less than five metres downwind of the compound.

Routine bacteriological water quality sampling was carried out during the inspection, with two seawater samples collected from Wai-inu Beach.

As observed during previous inspections, groundwater was found to be pooling in the grasses and the upper sandy reaches of Wai-inu Beach. An additional sample was collected from a pool for analysis, as faint sewage odours were noted in the vicinity of these pools.



Photo 1 Low-moderate weed growth on the eastern filter bed at Wai-inu Beach Settlement (20 December 2017)

12 January 2018

Conditions were overcast, with a light breeze. The camp was moderately busy during the inspection, with five camping parties present on site, and up to ten recreational beachgoers observed.

An STDC officer and groundwater specialist from the Council accompanied the inspection officer. This was in connection to the elevated bacteriological result of the additional, surface water sample collected from the groundwater observed ponding at the mid-to-eastern end of the beach during the pre-Christmas inspection. Groundwater, indicated by red/brown staining, could be seen at the surface just above the high tide line along the majority of the beach front, although considerably less groundwater was observed on this occasion; a sample was not collected. The STDC officer informed the Council that STDC would carry out their own

investigation into the elevated bacteriological counts recorded, and would collect samples along the length beach.

There was a low level of weed cover on both filter beds (<5%). The eastern bed received wastewater during the inspection, with preferential flow paths noted on the bed. The wastewater flowed through the drain to the soakage trenches within five minutes of discharge. Ponding was not observed on either bed.

Strong sewage odours were detected less than 10 m downwind of the compound.

Routine bacteriological water quality sampling was carried out during the inspection, with two seawater samples (SEA907098 and SEA907093) collected from Wai-inu Beach. The enterococci counts of the seawater samples were very low (3 and 4/100 ml), and were below the MfE surveillance level for marine recreational bathing.

16 February 2018

Conditions were mostly fine, with no wind. The camp was busy during the inspection, with 18 camping parties observed at the campsites and up to 30 recreational beachgoers observed.

There was a low level of weed cover on the western filter bed (<5%), in addition to a considerable amount of dried waste material producing an uneven surface. The eastern bed was found to be clear of weeds and in good condition. Ponding was not observed on either bed during the inspection.

Sewage odours were not detected at the compound during the inspection.

Routine bacteriological water quality sampling was carried out, with two seawater samples (SEA907098 and SEA907093) collected from Wai-inu Beach. The enterococci counts of the seawater samples were very low (10 and 8/100 ml respectively), and were below the MfE surveillance level for marine recreational bathing.

Health warning signs erected by STDC in January 2018, in connection to concerns surrounding potentially contaminated groundwater pooling on the beach, had been taken down. The results of a three week sampling regime carried out by STDC indicated that bacterial counts were low at all sites sampled.

2.2 Results of bacteriological monitoring

During each inspection, seawater samples were collected at two coastal sites located at either end of Wai-inu Beach (Figure 1). These bacteriological monitoring results for 2017-2018, along with a statistical summary of data between 1992 and 2017, are presented in Table 2. Enterococci counts were low across all samples collected during the year under review. Over the course of the monitoring period, all of the samples analysed had enterococci counts below the MfE 'Alert' guideline level (Table 1). The low faecal indicator bacteria counts recorded in the 2017-2018 monitoring year were similar to the historical median values.

Table 2 Bacteriological monitoring results from the two coastal sites at Wai-inu Beach, including a summary of previous data from 1992 to 2017

Site	Western end of beach – SEA907093		Eastern end of beach – SEA907098	
Parameter	Enterococci	Conductivity	Enterococci	Conductivity
Unit	cfu/100 ml	mS/m @ 20°C	cfu/100 ml	mS/m @ 20°C
Summary statistics				
Minimum	0.5	4,020	0.5	3,990
Maximum	310	4,880	1400	4,920
Median	3	4,640	3	4,600
Number	74	68	74	68

Site	Western end of beach – SEA907093		Eastern end of beach – SEA907098	
2017-2018 monitoring results				
20-Dec-2017	7	4,820	4	4,800
12-Jan-2018	4	4,790	3	4,720
16-Feb-2018	8	4,710	10	4,650

2.3 Investigations, interventions, and incidents

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with STDC. During the year, matters may arise which require additional activity by the Council, for example provision of advice and information, or investigation of potential or actual causes of non-compliance or failure to maintain good practices. A pro-active approach that in the first instance avoids issues occurring is favoured.

The Council operates and maintains a register of all complaints or reported and discovered excursions from acceptable limits and practices, including non-compliance with consents, which may damage the environment. The incident register includes events where the consent holder concerned has itself notified the Council. The register contains details of any investigation and corrective action taken.

Complaints may be alleged to be associated with a particular site. If there is potentially an issue of legal liability, the Council must be able to prove by investigation that the identified company is indeed the source of the incident (or that the allegation cannot be proven).

In the 2017-2018 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with STDC's conditions in their resource consent or provisions in Regional Plans.

However, as described in Section 2.1, an additional sample was collected from groundwater that was found to be pooling in the grasses and the upper sandy reaches of Wai-inu Beach, during a routine site inspection on 20 December 2017. Faint sewage odours detected in the vicinity of these pools prompted the additional sampling and concern that wastewater from the camp could be contaminating local groundwater that discharges on to the beach. The proximity of the water treatment system at the Wai-inu Beach Settlement, and direction of groundwater flow in the area, raised further concern. STDC were notified of the elevated bacterial count of the water sample on 22 December 2017, and erected health warning signs in the area of the beach under investigation on 15 January 2018, as a precautionary measure. STDC proceeded to carry out investigative water quality testing at seven sites across the beach, over a three week period. Results from the testing regime indicated bacterial counts of an acceptable level that posed no health risk to the public. The warning signs were taken down on 2 February 2018.

3 Discussion

3.1 Discussion of site performance

Any sewage odours detected during the summer inspections were within 10 m of the filter bed compound. Sewage odours were mild and not detected during the inspections on 20 December 2017 and 16 February 2018, respectively, while strong odours were noted during the inspection on 12 January 2018. Plans to redesign the wastewater treatment system, in response to odour complaints received from the local community, are underway. The aim of the upgrade is to mitigate the odour issues associated with the beds. STDC lodged an application for early consent renewal on 19 October 2017, and the application was granted on 1 December 2017. Works associated with the redesign of the wastewater treatment system are expected to begin in August/September 2018, and to be completed by November/December 2018.

3.2 Environmental effects of exercise of consents

Operation of the wastewater treatment system at the Wai-inu Beach Settlement was not found to have any adverse effects on water quality at the Wai-inu Beach during the monitoring period. Overall, routine bacteriological monitoring has continued to return low faecal indicator bacteria counts.

Although objectionable odours from the wastewater treatment system have had some impact on the neighbourhood community in recent years, STDC has responded to these complaints promptly and effectively by initiating a system upgrade.

3.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the year under review is set out in Tables 3 and 4. An early application for consent renewal was lodged on 19 October 2017, and the application was granted on 1 December 2017. Site performance is evaluated in relation to consent 3769-3 prior to 1 December 2017, and in relation to consent 3769-4 from 1 December 2017 onwards.

Table 3 Summary of performance for consent 3769-3 (1 July 2017-30 November 2017)

Purpose: To discharge 84 cubic metres per day of treated domestic wastewater to groundwater from the Wai-inu Beach Settlement		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Exercise of consent to be carried out in accordance with information supplied	Site inspections of system and receiving waters	Yes
2. Consent holder to adopt best practicable option to minimise effects on the environment	Bacteriological sampling and site inspections	Yes
3. Consent holder shall maintain and operate the treatment system	Site inspections	Yes
4. Consent holder in conjunction with the Council to undertake monitoring of coastal waters	Bacteriological samples taken throughout the summer high use period	Yes
5. Contingency plan to be provided to the satisfaction of Chief Executive	Updated June 2015	Yes

Purpose: To discharge 84 cubic metres per day of treated domestic wastewater to groundwater from the Wai-inu Beach Settlement		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
6. Optional review provision regarding environmental effects		N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 4 Summary of performance for consent 3769-4 (1 December 2017-30 June 2018)

Purpose: To discharge treated domestic wastewater from the Wai-inu Beach Wastewater Treatment Plant to land		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Exercise of consent to be carried out in accordance with information supplied	Site inspections of system and receiving waters	Yes
2. Consent holder to adopt best practicable option to minimise effects on the environment	Bacteriological sampling and site inspections	Yes
3. Consent holder to advise the Council prior to making any significant changes to the system	Site inspections	Yes
4. Discharge to not exceed 100 m ³ in any 24 hour period ending at midnight		Yes
5. Consent holder to maintain a meter and datalogger at site of discharge. Records to be made available to Chief Executive on request	Upgraded system has not yet been commissioned	N/A
6. Records of discharge to be in a suitable format and to be provided within one month after the end of the 12-month period ending 30 June	Upgraded system has not yet been commissioned	N/A
7. To be no surface run-off, ponding, or contamination of surface water	Bacteriological sampling and site inspections	Yes
8. Consent holder shall suitably maintain and operate the treatment system	Site inspections	Yes

Purpose: To discharge treated domestic wastewater from the Wai-inu Beach Wastewater Treatment Plant to land		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
9. Disposal field shall be located in accordance with information supplied	Upgraded system has not yet been commissioned	N/A
10. There shall be no offensive or objectionable odour beyond the boundaries	Site inspections	Yes
11. Consent holder shall ensure that there is an accessible point where treated effluent can be sampled	Upgraded system has not yet been commissioned	N/A
12. Contingency plan to be provided to the satisfaction of Chief Executive	Upgraded system has not yet been commissioned	N/A
13. Site shall be operated in accordance with a 'Management Plan'	Upgraded system has not yet been commissioned	N/A
14. Consent holder shall report to the Council before 31 July annually, the results of the monitoring undertaken in accordance with condition 13	Upgraded system has not yet been commissioned	N/A
15. Consent holder shall commission a report, making a recommendation about the need for disinfection	Report due before 30 June 2021	N/A
16. Optional review provision regarding environmental effects	Not required	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable as condition relates to redesigned treatment system that has not yet been instated and therefore cannot be assessed

During the year under review, STDC demonstrated a high level of environmental and administrative performance with the resource consents as defined in Section 1.1.4. In summary, there were no breaches of consent conditions and bacteriological sampling of the coastal waters failed to detect any contamination that could be linked to the operation of the wastewater treatment system.

3.4 Recommendations from the 2016-2017 Annual Report

In the 2016-2017 Annual Report, it was recommended:

1. THAT monitoring of discharges from the Wai-inu Beach Settlement wastewater treatment system in the 2017-2018 year continues at the same level as in 2016-2017.

This recommendation was implemented in full.

3.5 Alterations to monitoring programmes for 2018-2019

In designing and implementing the monitoring programmes for air/water discharges in the region, the Council has taken into account:

- the extent of information already made available through monitoring or other means to date;
- its relevance under the RMA;
- the Council's obligations to monitor consented activities and their effects under the RMA;
- the record of administrative and environmental performances of the consent holder; and
- reporting to the regional community.

The Council also takes into account the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki exercising resource consents.

It is proposed that for 2018-2019, the monitoring programme for the Wai-inu Beach Settlement remains unchanged on the grounds that there were no significant adverse effects on the receiving environment during the 2017-2018 monitoring period. A recommendation to this effect is attached to this report.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the site(s) in question. The Council reserves the right to subsequently adjust the programme from that initially prepared, should the need arise if potential or actual non-compliance is determined at any time during 2018-2019.

4 Recommendations

1. THAT monitoring of discharges from the Wai-inu Beach Settlement wastewater treatment system in the 2018-2019 year continues at the same level as in 2017-2018.

Glossary of common terms and abbreviations

The following abbreviations and terms may be used within this report:

'Action' mode	Two consecutive single samples greater than 280 enterococci/100ml
'Alert' mode	Single sample greater than 140 enterococci/100ml
Bacteriological	Micro-organisms selected as indicators of faecal material indicators
Bathers	Those who enter the water, and either partially or fully immerse themselves
Bathing season	Generally, the bathing season extends between 1 November and 31 March
Beach	The shore or any access point to the sea
cfu	Colony forming units. A measure of the concentration of bacteria usually expressed as per 100 millilitre sample
Conductivity	An indication of the level of dissolved salts in a sample, usually measured at 20°C and expressed in mS/m
Contact recreation	Recreational activities that bring people physically in contact with water, involving a risk of involuntary ingestion or inhalation of water
Enterococci	An indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre of sample
Faecal coliforms	An indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre sample
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident
Incident Register	The Unauthorised Incident Register – contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan
Median	Central value when values are arranged in order of magnitude
Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15)
RMA	Resource Management Act 1991 and subsequent amendments
Temperature	Measured in °C (degrees Celsius)
Water quality	The bacteriological condition of a water body as it relates to human health, measured using indicator bacteria

For further information on analytical methods, contact a Science Service's manager.

Bibliography and references

- Taranaki Regional Council; 2017: Wai-inu Beach Settlement Monitoring Programme. Annual Report 2016-2017. Taranaki Regional Council Technical Report 2017-43.
- Taranaki Regional Council; 2016: Wai-inu Beach Settlement Monitoring Programme. Annual Report 2015-2016. Taranaki Regional Council Technical Report 2016-109.
- Taranaki Regional Council; 2015: Wai-inu Beach Settlement Monitoring Programme. Annual Report 2014-2015. Taranaki Regional Council Technical Report 2015-14.
- Taranaki Regional Council; 2014: Wai-inu Beach Settlement Monitoring Programme. Annual Report 2013-2014. Taranaki Regional Council Technical Report 2014-08.
- Taranaki Regional Council; 2013: Wai-inu Beach Settlement Monitoring Programme. Biennial Report 2011-2013. Taranaki Regional Council Technical Report 2012-61.
- Taranaki Regional Council; 2013: Bathing Beach Water Quality State of the Environment Monitoring Report 2012-2013. Taranaki Regional Council Technical Report 2013-17.
- Taranaki Regional Council; 2010: Wai-inu Beach Settlement Monitoring Programme. Annual Report 2010-2011. Taranaki Regional Council Technical Report 2011-04.
- Taranaki Regional Council; 2010: Bathing Beach Water Quality State of the Environment Monitoring Report 2009-2010. Taranaki Regional Council Technical Report 2010-08.
- Taranaki Regional Council; 2009: Wai-inu Beach Settlement Monitoring Programme. Annual Report 2008-2009. Taranaki Regional Council Technical Report 2009-07.
- Taranaki Regional Council; 2009: Wai-inu Beach Settlement Monitoring Programme. Annual Report 2009-2010. Taranaki Regional Council Technical Report 2010-07.
- Taranaki Regional Council; 2008: Wai-inu Beach Settlement Monitoring Programme. Annual Report 2007-2008. Taranaki Regional Council Technical Report 2008-17.
- Taranaki Regional Council; 2007: Wai-inu Beach Settlement Monitoring Programme. Annual Report 2006-2007. Taranaki Regional Council Technical Report 2007-14.
- Taranaki Regional Council; 2006: Wai-inu Beach Settlement Monitoring Programme. Annual Report 2005-2006. Taranaki Regional Council Technical Report 2006-08.
- Taranaki Regional Council; 2005: Wai-inu Beach Settlement Monitoring Programme. Annual Report 2004-2005. Taranaki Regional Council Technical Report 2005-23.
- Taranaki Regional Council; 2004: Wai-inu Beach Settlement Monitoring Programme. Annual Report 2003-2004. Taranaki Regional Council Technical Report 2004-13.
- Taranaki Regional Council; 2003: Wai-inu Beach Settlement Monitoring Programme. Annual Report 2002-2003. Taranaki Regional Council, Technical Report 2003-10.
- Taranaki Regional Council; 2002: Wai-inu Beach Settlement Monitoring Programme Annual Report 2001-02. Taranaki Regional Council Technical Report 02-31.

- Taranaki Regional Council; 2001: Wai-inu Beach Settlement Monitoring Programme Annual Report 2000-01.
Taranaki Regional Council Technical Report 01-34.
- Taranaki Regional Council; 2000: Wai-inu Beach Settlement Monitoring Programme Annual Report 1999-2000.
Taranaki Regional Council Technical Report 00-29.
- Taranaki Regional Council; 1999: Wai-inu Beach Settlement Monitoring Programme Annual Report 1998-99.
Taranaki Regional Council Technical Report 99-37.
- Taranaki Regional Council; 1998: Wai-inu Beach Settlement Monitoring Programme Annual Report 1997-98.
Taranaki Regional Council Technical Report 98-49.
- Taranaki Regional Council; 1997: Wai-inu Beach Settlement Monitoring Programme Annual Report 1996-97.
Taranaki Regional Council Technical Report 97-17.
- Taranaki Regional Council; 1996: Wai-inu Beach Settlement Monitoring Programme Annual Report 1995/96.
Taranaki Regional Council Technical Report 96-13.
- Taranaki Regional Council; 1995: Wai-inu Beach Settlement Monitoring Programme Annual Report 1994/95.
Taranaki Regional Council Technical Report 95-23.
- Taranaki Regional Council; 1994: Wai-inu Beach Settlement Monitoring Programme Annual Report 1993/94.
Taranaki Regional Council Technical Report 94-5.
- Taranaki Regional Council; 1993: Wai-inu Beach Settlement Monitoring Programme Annual Report 1992/93.
Taranaki Regional Council Technical Report 93-8.
- Ministry for the Environment and Ministry of Health, 2002: Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas. Ministry for the Environment, Wellington.

Appendix I

Resource consent held by STDC

(For a copy of the signed resource consent
please contact the TRC Consents department)

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: South Taranaki District Council
Private Bag 902
HAWERA

Consent Granted
Date: 26 November 2003

Conditions of Consent

Consent Granted: To discharge up to 84 cubic metres/day of treated domestic wastewater from Waiinu Beach settlement via seepage to groundwater in the Waitotara catchment at or about GR: R22:595-473

Expiry Date: 1 June 2022

Review Date(s): June 2010, June 2016

Site Location: Waiinu Beach Settlement, Waiinu Beach Road, Waitotara

Legal Description: Road Reserve Waiinu Beach Settlement Waitotara

Catchment: Waitotara

Consent 3769-3

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. The exercise of this consent shall be carried out generally in accordance with the information supplied in support of the application.
2. The consent holder shall adopt the best practicable option or options [as defined in section 2 of the Resource Management Act 1991] to prevent or minimise any actual or potential effect on the environment arising from the exercise of this consent
3. The consent holder shall properly and effectively maintain and operate the treatment system with particular emphasis on septic tank and filter bed maintenance.
4. The consent holder shall, in conjunction with the Taranaki Regional Council, undertake such monitoring of the treatment system and coastal waters as deemed necessary by the Chief Executive, Taranaki Regional Council.
5. The consent holder shall provide a contingency plan to the satisfaction of the Chief Executive, Taranaki Regional Council, outlining septic tank maintenance and measures to be undertaken in the event of a failure of the components of the treatment system, within six months of granting this consent.
6. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2010 and/or June 2016, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 26 November 2003

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: South Taranaki District Council
Private Bag 902
Hawera 4640

Decision Date: 1 December 2017

Commencement Date: 1 December 2017

Conditions of Consent

Consent Granted: To discharge treated domestic wastewater from the Waiinu Beach Waste Water Treatment Plant to land

Expiry Date: 1 June 2034

Review Date(s): June annually

Site Location: Nukumarū Parade, Waiinu Beach

Grid Reference (NZTM) 1749195E-5585813N

Catchment: Waitotara

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. This consent authorises the discharge of treated domestic effluent from the Waiinu Beach Township Wastewater Treatment Plant as generally described in the application and supporting documentation.
2. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any actual or likely adverse effect on the environment associated with the discharge.
3. The consent holder shall advise the Taranaki Regional Council prior to making any change in the processes undertaken at the site which could significantly alter the nature of the discharge. The advice shall be given by emailing consents@trc.govt.nz.
4. The discharge shall not exceed 100 m³ in any 24 hour period ending at midnight (New Zealand standard time).
5. From the date that the upgraded Waiinu Beach Township Waste Water Treatment Plant is commissioned the consent holder shall maintain a meter and a datalogger at the site of discharge. The flow meter and datalogger shall be tamper-proof and shall measure and record the rate and volume of the discharge to an accuracy of $\pm 5\%$, at intervals not exceeding 15 minutes. Records of the date, the time and the rate and volume the discharge, shall be made available to the Chief Executive, Taranaki Regional Council on request.
6. The records of discharge shall:
 - a) be in a format that, in the opinion of the Chief Executive, Taranaki Regional Council, is suitable for auditing; and
 - b) for each 12-month period ending on 30 June, be provided to the Chief Executive, Taranaki Regional Council within one month after end of that period.
7. There shall be no surface run-off, ponding, or contamination of surface water resulting from the discharge of treated wastewater to land.
8. The wastewater treatment system shall be operated and maintained according to the manufacturer's guidelines and/or operations management plan (whichever is most appropriate).
9. The disposal field shall be located within the boundaries of the subject property shown in Appendix 1 and in accordance with the information submitted in support of this application.
10. There shall be no offensive or objectionable odour beyond the boundaries of the subject property shown in Appendix 1.

Consent 3769-4.0

11. The consent holder shall ensure that there is a point where the treated effluent can be sampled before it is discharged to the effluent land application area. The consent holder shall provide access for the Taranaki Regional Council to enable a sample to be taken as required.
12. From the date that the upgraded Waiinu Beach Township Waste Water Treatment Plant is commissioned the consent holder shall prepare, maintain and regularly update a 'Contingency Plan' which details measures and procedures that will be undertaken to prevent and/or to avoid environmental effects from a spillage or any discharge of contaminants not authorised by this consent. The plan and any amended versions shall be provided to the Chief Executive of the Taranaki Regional Council and Te Kaahui o Rauru.
13. From the date that the upgraded Waiinu Beach Township Waste Water Treatment Plant is commissioned the site shall be operated in accordance with a 'Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The Management Plan shall detail how the site is to be managed and monitored and shall include as minimum:
 - a) monitoring the wastewater effluent quality and rate of the discharge;
 - b) management of the wastewater treatment system;
 - c) environmental monitoring plan to investigate the need for UV disinfection;
 - d) general housekeeping; and
 - e) reporting.

The consent holder shall provide a copy of the current Management Plan to Te Kaahui o Rauru.

Advice note: The Management Plan may include other information that the consent holder considers appropriate, such as how cultural matters are being addressed in the management of the Waste Water Treatment Plant.

14. The consent holder shall report to the Taranaki Regional Council before 31 July annually detailing results of the environmental monitoring undertaken in accordance with condition 13 above. The consent holder shall provide a copy of the annual environmental monitoring to Te Kaahui o Rauru.
15. Before 30 June 2021 the consent holder shall engage a suitably qualified independent person to prepare a report investigating environmental monitoring results and making a recommendation about the need for disinfection in the Waste Water Treatment Plant system. The consent holder shall provide a copy of the recommendation report to Te Kaahui o Rauru.

Consent 3769-4.0

16. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June annually for the purposes of:
- a) ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or
 - b) requiring any data collected in accordance with the conditions of this consent to be transmitted directly to the Taranaki Regional Council's computer system, in a format suitable for providing a 'real time' record over the internet.

Signed at Stratford on 1 December 2017

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Appendix 1: Site boundary of WWTP within yellow lines

