New Plymouth District Council
Inglewood WWTP
Monitoring Programme
Annual Report
2024/25
Technical Report 2025-14

Taranaki
Regional Council

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Executive summary

The New Plymouth District Council (NPDC) operates a municipal wastewater treatment plant (WWTP) located on Lincoln Road at Inglewood, in the Kurapete Catchment. This report for the period July 2024 to June 2025 describes the monitoring programme implemented by Taranaki Regional Council (the Council) to assess the Company's environmental and consent compliance performance during the period under review. The report also details the results of the monitoring undertaken and assesses the environmental effects of NPDC's activities.

During the monitoring period, New Plymouth District Council demonstrated a high level of environmental performance and a high level of administrative performance.

NPDC holds one resource consent to intermittently discharge treated wastewater to the Kurapete Stream, which includes a total of nine conditions setting out the requirements that they must satisfy.

The Council's monitoring programme for the year under review included three inspections and wastewater effluent analyses.

NPDC's maintenance programme continues to generally enhance the operation and appearance of the plant and effectively control any produced odour. No complaints were received in relation to the operation of the WWTP. Regular inspections indicated no immediate problems with the performance of the plant.

There were two consented overflow recorded during the monitoring year, with the majority of the wastewater pumped to New Plymouth WWTP as planned.

For reference, in the 2024/25 year, consent holders were found to achieve a high level of environmental performance and compliance for 815 (86%) of a total of 946 consents monitored through the Taranaki tailored monitoring programmes, while for another 101 (11%) of the consents a good level of environmental performance and compliance was achieved. A further 29 (3%) of consents monitored required improvement in their performance, while the remaining 1 (<1%) achieved a rating of poor.

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 2025/26 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 2024 to June 2025 by the Council describing the monitoring programme associated with resource consents held by New Plymouth District Council (NPDC). NPDC operates a municipal wastewater treatment plant (WWTP) situated on Lincoln Road at Inglewood.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consents held by NPDC that relates to the intermittent discharge of treated wastewater in the Kurapete Catchment. This is the 38th annual report to be prepared by the Council to cover NPDC's 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 though annual programmes;
- the resource consents held by NPDC in the Kurapete Catchment;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted at the Inglewood WWTP.

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 2025/26 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' in as much 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 performance

Besides discussing the various details of the performance and extent of compliance by the consent holders, this report also assigns a rating as to each Company's environmental and administrative performance during the period under review. The rating categories are high, good, improvement required and poor for both environmental and administrative performance. The interpretations for these ratings are found in Appendix II.

For reference, in the 2024/25 year, consent holders were found to achieve a high level of environmental performance and compliance for 815 (86%) of a total of 946 consents monitored through the Taranaki tailored monitoring programmes, while for another 101 (11%) of the consents a good level of environmental performance and compliance was achieved. A further 29 (3%) of consents monitored required improvement in their performance, while the remaining 1 (<1%) achieved a rating of poor.[1]

1.2 Wastewater Treatment Plant system

Since late 1999, municipal wastewater from the Inglewood WWTP (Photo 1) has been pumped and gravity-fed to the New Plymouth WWTP, for further treatment prior to discharge to the Tasman Sea. Due to the limited capacity of the Moa-Nui pipeline from the Inglewood WWTP, overflows are likely to occur during extreme peak flows, when stormwater and groundwater infiltration are excessive. Overflow facilities are used during peak storm flows to treat pond effluent before discharge to the stream occurs. These consist of a shallow primary aeration pond that flows into the main pond for longer-term storage prior to pumping to New Plymouth. No continuous discharge occurs from the ponds' system in the long term.

The present population serviced by the Inglewood system is close to 3,000 persons, and industrial waste is a minimal component of the wastewater loading on the system. Historical problems relating to siltation of the treatment ponds and refurbishment measures undertaken by NPDC have been documented in several annual reports prepared by the Council (TRC, 2015(b)).

No additional trade waste connections to the sewerage reticulation were recorded during this monitoring period. It should be noted that industrial waste disposal tankers are not encouraged to use the plant for disposal and treatment purposes, but preferably to utilise the New Plymouth WWTP (NPDC, pers. comm.). Controlled facilities also exist at the Stratford and Hawera oxidation ponds treatment systems for wastes disposal of this nature from within those districts.

[1] The Council has used these compliance grading criteria for more than 21 years. They align closely with the 4 compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

Photo 1 Inglewood WWTP

1.2.1 Inflow and infiltration reduction

Development and implementation of a stormwater infiltration reduction programme, as required by special condition 7 of the consent was instigated by NPDC, and progress has been reported at required intervals.

Considerable work has been reported, including a manhole replacement programme, lateral replacements, ongoing sewer patching, and continued flow monitoring. NPDC have committed to reducing influent volumes to achieve a nil overflow situation. This will achieve the ultimate objective of no wastewater discharges to the Kurapete Stream. Achieving this outcome depends to some extent on the existing condition of the reticulation.

A wastewater network modelling project has recently been completed. This used rainfall and sewer flow data to create a calibrated digital model of the entire Inglewood wastewater network. The calibrated model will be used to assess network performance under different storm events of varying duration and return interval, along with projected growth within the catchment and the impacts of climate change.

An inflow and infiltration pilot study is underway in a model defined sub catchment in Inglewood, the aim of which is to identify the scale and type of sources of inflow and infiltration in much more granular detail. This involves flow gauging, DTS, property inspections and CCTV of public pipes and private laterals. The findings from this will be extrapolated across the wider network to plan the most effective remedial interventions.

This process creates online business cases for network upgrades. The planning, design and construction of these upgrades is expected to take anywhere from four to ten years to be completed, depending on their complexity and scale. The first overflow reduction project, the Carrington/TET interceptor pipe is currently in the detailed design phase, with construction planned to begin in late 2025.

During the 2024/25 monitoring period expenditure on inflow and infiltration reduction consisted of:

- $51,466 spent on pipe lining.
- $515,817 spent on pipe renewals.
- $1,131 spent on CCTV

1.3 Resource consents

NPDC holds one resource consent in relation to the Inglewood WWTP, the details of which are summarised in the table below. Summaries of the conditions attached to the permit are set out in Section 3 of this report.

A summary of the various consent types issued by the Council is included in Appendix I, as is a copy of the permit held by the Company during the period under review.

Table 1 Resource consent held by NPDC in relation to the Inglewood WWTP

Consent number	Purpose	Granted	Review	Expires
1449-5	To intermittently discharge treated municipal wastewater from the Inglewood oxidation ponds system into the Kurapete Stream	June 2016	June 2028	June 2033

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 the Inglewood WWTP site consisted of four 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;
- 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 Data Review

NPDC undertake a significant amount of self-monitoring of the performance of the WWTP. The data gathered is reported to the Council on a monthly basis and is reviewed by the Council to determine compliance with consent conditions.

1.4.4 Site inspections

Three routine inspections and one follow-up inspection were undertaken at the Inglewood WWTP during the monitoring period. The main points of interest were plant operation, maintenance, upgrades, and occurrence of any discharges of treated wastewater. These inspections provided for the operation, internal monitoring, and supervision of the plant to be reviewed by the Council.

1.4.5 Chemical sampling

The Council undertook sampling of the secondary pond effluent from the site three times, for the purposes of monitoring dissolved oxygen and algal populations in the system.

2. Results

2.1 Water

2.1.1 Inspections

6 September 2024

An inspection was undertaken of the pond system after notification from NPDC that the pond was overflowing to the Kurapete Stream as a result of a high rainfall event.

The primary screen was operating and wastes were fully contained with no odours noted.

The aerator was operating in the primary pond. The pond was a turbid brown.

The secondary pond was pale green and slightly turbid. More than 100 mallard ducks were present, along with several black swans. The discharge flow rate to the WWTP was 155m^3/hr.

The overflow discharge into the Kurapete Stream was estimated to be 3L/s. The stream was running at a moderate level and was clear and uncoloured at the time of the inspection with no visual impact occurring as a result of the discharge.

The WWTP surrounds and facilities were satisfactory and no significant odour issues were noted.

27 September 2024

A follow up inspection was undertaken following the recent emergency overflow to the Kurapete Stream. The overflow had ceased but the main pond level was still relatively high. The discharge flow rate to the WWTP was 155m^3/hr.

The Kurapete Stream was running at a moderate level and was slightly turbid and light brown in colour at the time of the inspection.

14 February 2025

The primary screen was operating, and wastes were fully contained. The primary lagoon was a dark brown colour and turbid with the paddle aerator operating.

The main pond was brown and turbid. Numerous ducks (mainly paradise) were present on the surface of the pond (>1,000). There had been no recent overflow discharge into the Kurapete Stream. The stream had a low flow and was clear and uncoloured at the time of the inspection.

The WWTP surrounds and facilities were found to be satisfactory and no significant odour issues were noted.

5 June 2025

The primary screen was operating, and wastes were fully contained. The paddle aerator was operating in the primary lagoon.

The main pond was slightly turbid, and green-brown in colour. Wildlife was abundant on the pond with more than 450 mallard and paradise ducks, and several black swans present.

The discharge flow rate to the WWTP was 165m^3/hr. The Kurapete Stream was running at a moderate flow and was clear and uncoloured at the time of the inspection.

No significant odour issues were noted and the surrounds were tidy.

2.2 Results of effluent monitoring

In past monitoring periods, samples of the plant system's effluent have been analysed as a component of summer assessments of effects in the receiving waters of the Kurapete Stream. Since the wastewater diversion to the New Plymouth WWTP was completed prior to the summer of 1999/00, no summer physicochemical effluent or receiving water sampling has been necessary, although regular sampling of the main pond (Photo 2) is carried out to assess the performance of the ponds. Any periods of overflow events are monitored by the consent holder (wastewater only), with samples collected and analysed by NPDC at the time of each event. There is also provision in the monitoring programme for the Council to collect samples from the discharge and from three sites in the Kurapete Stream should any significant overflow events occur.

Measurements of chlorophyll-a, dissolved oxygen and temperature were taken from the surface of the main pond (Photo 2) adjacent to the final section during each scheduled inspection. The results from this monitoring are presented in Sections 2.2.1 and 2.2.2.

Photo 2 The Inglewood WWTP main pond

2.2.1 Dissolved oxygen levels

The dissolved oxygen (DO) concentration in WWTPs varies both seasonally and during the day as a result of a combination of factors. The photosynthetic activity of the pond's microflora together with fluctuations in influent waste loadings on the system are the major influencing factors. Minimum DO concentrations are generally recorded in the early hours of daylight, and therefore pond performance has been evaluated by standardising sampling times toward mid-morning for all regular inspection visits during the monitoring period.

The Inglewood WWTP effluent was analysed for DO and temperature, and the results are displayed in Table 2.

Table 2 Dissolved oxygen measurements from the Inglewood WWTP

Date	Time (NZST)	Temperature (°C)	Dissolved Oxygen	
			Concentration (g/m^3)	Saturation (%)
6 Sep 2024	0945	14.0	6.53	64
14 Feb 2025	1230	18.2	11.1	144
5 Jun 2025	1000	13.0	5.57	54

DO concentrations in the pond samples varied between 54% and 144% saturation in the surface layer of the main pond near the outlet (Table 2, Photo 3). These results were similar to those usually recorded at this point (the historical median is 71%, with super-saturation recorded in around 19% of samples), and indicated that DO was present at all times in the surface layer of the pond. The variation in saturation levels measured to date has been typical of a biological treatment system in which the photosynthetic contribution of the microfloral population often causes wide DO variations.

Photo 3 Dissolved oxygen monitoring

2.2.2 Microfloral component

Pond microflora are very important for the stability of the symbiotic relation between aerobic bacteria in the pond. These phytoplankton may be used as a bio-indicator of pond conditions, for example cyanobacteria

are often present in under-loaded conditions and chlorophyceae are present in overloaded conditions. To maintain facultative conditions in a pond system there must be an algal community present in the surface layer.

The principal function of algae is the production of oxygen which maintains aerobic conditions while the main nutrients are reduced by biomass consumption. Elevated pH (due to algal photosynthetic activity) and solar radiation combine to reduce faecal bacteria numbers significantly.

Samples of the main pond effluent were collected during each inspection for chlorophyll-a analyses. Chlorophyll-a concentration can be a useful indicator of the algal population present in the system. Pearson (1996) suggested that a minimum in-pond chlorophyll-a concentration of 300mg/m^3 was necessary to maintain stable facultative conditions. However, seasonal change in algal populations and also dilution by stormwater infiltration might be expected to occur in any WWTP which, together with fluctuations in waste loadings, would result in chlorophyll-a variability.

The results of the main pond effluent analyses are provided in Table 3 together with field observations of pond appearance.

Table 3 Chlorophyll-a levels and main pond appearance

Date	Time (NZST)	Appearance	Chlorophyll-a (mg/m^3)	Range for the period 2013-mid 2024		
				Number	Range	Median
6 Sep 2024	0945	Slightly turbid, light green-brown	14	34	<1.0-270	17
14 Feb 2025	1230	Turbid, brown	40			
5 Jun 2025	1000	Slightly turbid, green-brown	5.1			

Very low levels of chlorophyll-a were found in the pond during the 2024/25 period. The Inglewood WWTP historically exhibits low chlorophyll-a levels, with the median of previous results 17mg/m^3. The historically low results have been attributed to ingress and flushing of stormwater during wet weather events.

2.3 Emergency overflow monitoring

Since the wastewater diversion to the New Plymouth WWTP was completed prior to 2000, only intermittent discharges from the Inglewood WWTP to the stream have occurred, related to intense rainfall events and high stormwater inflows. Any periods of overflow events are monitored by NPDC (wastewater only), with samples collected and analysed at the time of each event.

Prior to the wastes diversion, the consent holder had been required to monitor effluent quality on a two-monthly basis, as a special condition of Consent 1449-5, and report these results to the Council. This monitoring commenced in January 1992, continuing at two monthly intervals, until the diversion of the wastewater from the stream discharge. The renewed consent does not require effluent monitoring by the consent holder.

Plant effluent sampled during overflow events to date has had a relatively clear appearance with very good effluent quality due to the extensive dilution provided by the stormwater infiltration.

There were two consented overflow events during the 2024/25 period, commencing on 29 August and 20 September 2024. Both overflows were due to prolonged heavy rainfall.

Samples were collected on one occasion in relation to an overflow that commenced on 29 August 2024, the results are presented in Table 4 below.

The results showed the discharge was of relatively high quality with low levels of *E. coli*, BOD and suspended solids. DRP was below the level of detection and the other nutrients were also fairly low. When comparing

upstream and downstream of the discharge the results were very similar, with water quality increasing slightly below the discharge for some parameters such as *E. coli*, indicating that the discharge was not having an adverse effect on the stream.

Table 4 Results of sampling during overflow discharge 6 September 2024

Parameter	Unit	Site			
		Upstream KPK000300	Discharge OXP002001	75m downstream KPK000311	300m downstream KPK000330
$TBOD_5$	g/m^3	<2	4	<2	<2
DO (concentration)	g/m^3	10.57	6.53	10.56	10.53
DO (saturation)	%	98	64	98	98
$CBOD_5$	g/m^3	<2	<2	<2	<2
Chloride	g/m^3	13	10	13	13
DRP	g/m^3P	<0.004	<0.004	<0.004	<0.004
Conductivity	mS/m @25°C	14.2	15.2	14.0	14.5
E. coli	/100ml	800	1	500	610
Unionised ammonia	g/m^3 N	0.00055	0.0091	0.00058	0.00063
Ammoniacal nitrogen	g/m^3 N	0.091	1.7	0.091	0.092
Nitrate-N+Nitrite-N	g/m^3 N	0.95	0.32	0.94	0.94
pH	pH	7.4	7.2	7.4	7.4
Suspended solids	g/m^3	<3	<3	<3	<3
Temperature	°C	11.4	14.0	11.5	11.7
Turbidity	FNU	1.9	5.6	1.8	1.8

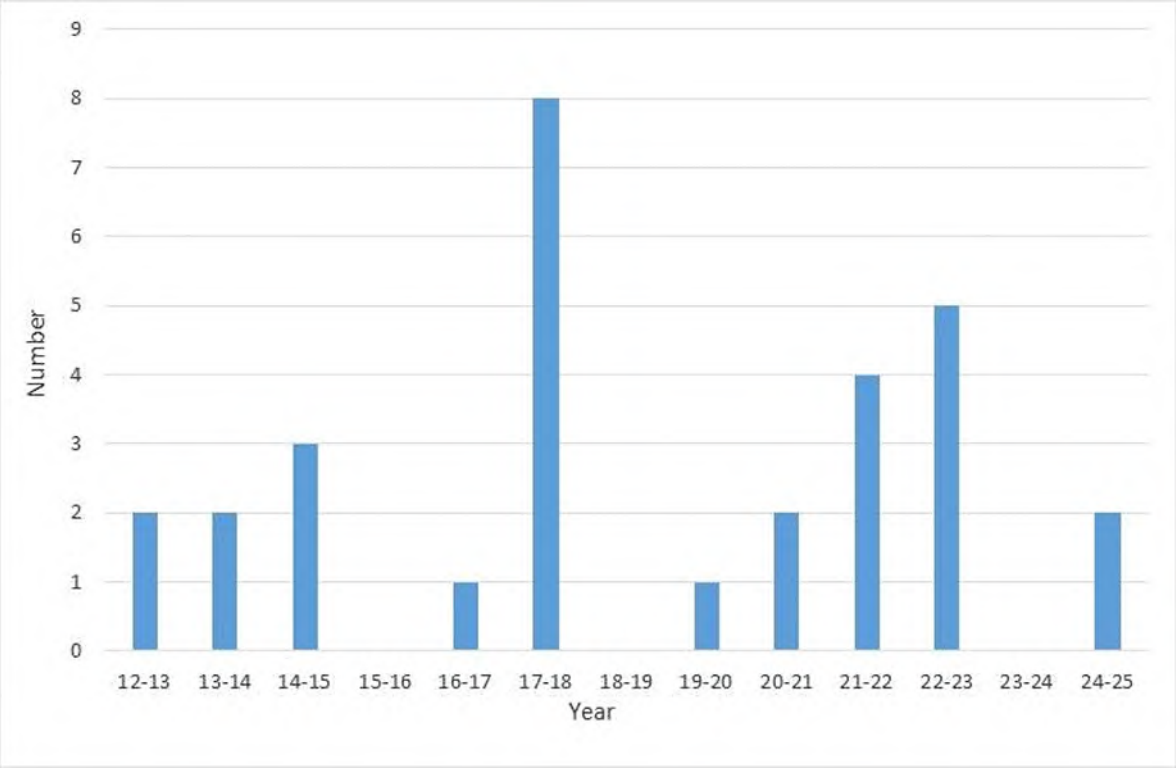

Figure 1 Number of overflows to Kurapete Stream per monitoring year

2.4 Incidents, investigations, and interventions

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 NPDC. 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.

For all significant compliance issues, as well as complaints from the public, the Council maintains a database record. The record includes events where the individual/organisation concerned has itself notified the Council. Details of any investigation and corrective action taken are recorded for non-compliant events.

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 individual/organisation is indeed the source of the incident (or that the allegation cannot be proven).

In the 2024/25 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with NPDC's conditions in resource consents or provisions in Regional Plans.

3. Discussion

3.1 Discussion of site performance

The Inglewood WWTP system has continued to perform satisfactorily, with aerobic conditions maintained throughout the monitoring period.

There were two consented overflow events during the monitoring period, both due to prolonged heavy rainfall.

NPDC continues to work towards a reduction in stormwater infiltration into the Inglewood township sewerage reticulation, as required by consent conditions. Work undertaken during the 2024/25 period consisted of pipe lining, pipe renewals and CCTV work. The first overflow reduction project arising from the wastewater network modelling project, the Carrington/TET interceptor pipe, is currently in the detailed design phase, with construction planned to begin in late 2025.

The WWTP system and surrounds continue to be maintained in good condition, with no issues with the step screen or odour from the system. Diversion of wastes to New Plymouth WWTP continued, with the pumps operating at their maximum speed for 35% of the 2024/25 year.

3.2 Environmental effects of exercise of consents

The majority of the wastewater from the Inglewood WWTP was contained and diverted to the New Plymouth WWTP during the 2024/25 period. Inspections and sampling did not indicate any significant adverse effects as a result of the two overflows that occurred.

3.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the year under review is set out in Table 5.

Table 5 Summary of performance for Consent 1449-5

Purpose: To intermittently discharge treated municipal wastewater from the Inglewood oxidation ponds system into the Kurapete Stream		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Consent holder to adopt best practicable option	Inspection	Yes
2. Limits on timing of discharges	Inspection and liaison with consent holder	Yes
3. Requirements for outlet screening	Inspections – outlet screen in place	Yes
4. Requirements of Management Plan	Plan received	Yes
5. Requirements of overflow recording and reporting	Liaison with consent holder	Yes
6. Notification of overflows to TDHB	Liaison with consent holder	Yes
7. Implementation of a stormwater reduction programme	Report on progress during the year received	Yes
8. Limits on effects in receiving waters	Inspection, sampling and review of NPDC results	Yes
9. Optional review provisions	Next optional review scheduled in June 2028	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

N/A = not applicable

Table 6 Evaluation of environmental performance over time

Year	Consent numbers	High	Good	Improvement req	Poor
2020/21	1449-5	1	-	-	-
2021/22	1449-5	1	-	-	-
2022/23	1449-5	1	-	-	-
2023/24	1449-5	1	-	-	-
2024/25	1449-5	1	-	-	-

During the year, NPDC demonstrated a high level of environmental and administrative performance with the resource consents as defined in Appendix II.

3.4 Recommendations from the 2023/24 Annual Report

In the 2023/24 Annual Report, it was recommended:

1. THAT in the first instance, monitoring of consented activities at Inglewood WWTP in the 2024/25 year continue at the same level as in 2023/24
2. THAT should there be issues with environmental or administrative performance in 2024/25, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.
3. THAT the option for a review of Resource Consent 1449-5 in June 2025, as set out in condition nine of the consent, not be exercised, on the grounds that the current conditions are adequate.

These recommendations were implemented.

3.5 Alterations to monitoring programmes for 2025/26

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 the 2025/26 monitoring programme is altered slightly, with the number of inspections reducing from three per year to two per year, with provision made for additional inspections and sampling if an overflow occurs.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the site 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 2025/26.

4. Recommendations

1. THAT in the first instance, monitoring of consented activities at Inglewood WWTP in the 2025/26 year continue at a similar level as in 2024/25.
2. THAT the number of inspections is reduced from three per year to two per year.
3. THAT should there be issues with environmental or administrative performance in 2025/26, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Glossary of common terms and abbreviations

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

Biomonitoring	Assessing the health of the environment using aquatic organisms.
BOD	Biochemical oxygen demand. A measure of the presence of degradable organic matter, taking into account the biological conversion of ammonia to nitrate.
BODF	Biochemical oxygen demand of a filtered sample.
cfu	Colony forming units. A measure of the concentration of bacteria usually expressed as per 100 millilitre sample.
Conductivity	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 25°C and expressed in mS/m.
DO	Dissolved oxygen.
DRP	Dissolved reactive phosphorus.
DTS	Distributed Temperature Sensing.
E. coli	*Escherichia coli*, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre sample.
FC	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.
Fresh	Elevated flow in a stream, such as after heavy rainfall.
g/m^3	Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
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 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.
L/s	Litres per second.
m^2	Square Metres.
MCI	Macroinvertebrate community index; a numerical indication of the state of biological life in a stream that takes into account the sensitivity of the taxa present to organic pollution in stony habitats.
mS/m	Millisiemens per metre.
Mixing zone	The zone below a discharge point where the discharge is not fully mixed with the receiving environment. For a stream, conventionally taken as a length equivalent to 7 times the width of the stream at the discharge point.

NH_4	Ammonium, normally expressed in terms of the mass of nitrogen (N).
NH_3	Unionised ammonia, normally expressed in terms of the mass of nitrogen (N).
NNN	Nitrate-Nitrite nitrogen
NO_3	Nitrate, normally expressed in terms of the mass of nitrogen (N).
NO_2	Nitrite, normally expressed in terms of the mass of nitrogen (N).
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
pH	A numerical system for measuring acidity in solutions, with 7 as neutral. Numbers lower than 7 are increasingly acidic and higher than 7 are increasingly alkaline. The scale is logarithmic i.e. a change of 1 represents a ten-fold change in strength. For example, a pH of 4 is ten times more acidic than a pH of 5.
Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.
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 including all subsequent amendments.
SQMCI	Semi quantitative macroinvertebrate community index.
SS	Suspended solids.
Temp	Temperature, measured in °C (degrees Celsius).
Turb	Turbidity, expressed in NTU.
WWTP	Wastewater Treatment Plant.

For further information on analytical methods, contact a manager within the Environment Quality Department.

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Appendix I

Resource consents held by NPDC

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

Water abstraction permits

Section 14 of the RMA stipulates that no person may take, use, dam or divert any water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or it falls within some particular categories set out in Section 14. Permits authorising the abstraction of water are issued by the Council under Section 87(d) of the RMA.

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. Permits authorising discharges to water are issued by the Council under Section 87(e) of the RMA.

Air discharge permits

Section 15(1)(c) of the RMA stipulates that no person may discharge any contaminant from any industrial or trade premises into air, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Permits authorising discharges to air are issued by the Council under Section 87(e) of the RMA.

Discharges of wastes to land

Sections 15(1)(b) and (d) of the RMA stipulate that no person may discharge any contaminant onto land if it may then enter water, or from any industrial or trade premises onto land under any circumstances, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Permits authorising the discharge of wastes to land are issued by the Council under Section 87(e) of the RMA.

Land use permits

Section 13(1)(a) of the RMA stipulates that no person may in relation to the bed of any lake or river use, erect, reconstruct, place, alter, extend, remove, or demolish any structure or part of any structure in, on, under, or over the bed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Land use permits are issued by the Council under Section 87(a) of the RMA.

Coastal permits

Section 12(1)(b) of the RMA stipulates that no person may erect, reconstruct, place, alter, extend, remove, or demolish any structure that is fixed in, on, under, or over any foreshore or seabed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Coastal permits are issued by the Council under Section 87(c) of the RMA.

Discharge Permit

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

Name of Consent Holder:	New Plymouth District Council Private Bag 2025 New Plymouth 4342
Decision Date:	28 June 2016
Commencement Date:	28 June 2016

Conditions of Consent

Consent Granted:	To intermittently discharge treated municipal wastewater from the Inglewood oxidation ponds system into the Kurapete Stream
Expiry Date:	1 June 2033
Review Date(s):	June 2019 and 3-yearly intervals thereafter
Site Location:	Lincoln Road, Inglewood
Grid Reference (NZTM)	1705219E-5665557N
Catchment:	Waitara
Tributary:	Manganui Kurapete

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. 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 adverse effects on the environment from the exercise of this consent.

2. The discharge shall only occur at times when inflow to the plant exceeds the rate that effluent can be pumped to the New Plymouth Waste Water Treatment Plant, and there is no available storage.

3. The discharge shall pass through a screen with a maximum aperture of 6 mm.

4. 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 plan shall detail how the site will be managed to achieve compliance with the conditions of this consent.

5. The consent holder shall record the time and duration of each overflow to the Kurapete Stream, as authorised by special condition 2, and report these records to the Chief Executive, Taranaki Regional Council, at six monthly intervals.

6. The consent holder shall immediately notify the Taranaki District Health Board of any discharge.

7. The consent holder shall continue to implement a stormwater infiltration reduction investigation for the township of Inglewood and report annually on progress to the Chief Executive, Taranaki Regional Council for the period up to 30 June.

8. The overflow discharges shall not give rise to all or any of the following effects in the receiving waters of the Kurapete Stream 100 metres downstream of the discharge:
    a) the production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
    b) any conspicuous change in the colour or visual clarity;
    c) any emission of objectionable odour;
    d) the rendering of fresh water unsuitable for consumption by farm animals;
    e) any significant adverse effect on aquatic life.

9. 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 or review during the month of June 2019 and at 3-yearly intervals thereafter, for the purpose of 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 28 June 2016

For and on behalf of
Taranaki Regional Council

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A D McLay
Director - Resource Management

Appendix II

Categories used to evaluate environmental and administrative performance

Categories used to evaluate environmental and administrative performance

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 the Company'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 interpretation, 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 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 during investigations of incidents reported to the Council by a third party 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 during investigations of incidents reported to the Council by a third party. 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 during investigations of incidents reported to the Council by a third party. 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 were 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.