

New Plymouth District Council
Water Supplies
Monitoring Programme
Annual Report
2014-2015
Technical Report 2015-61

ISSN: 0114-8184 (Print)
ISSN: 1178-1467 (Online)
Document: 1587751 (Word)
Document: 1597707 (Pdf)

Taranaki Regional Council
Private Bag 713
STRATFORD

February 2016

Executive summary

New Plymouth District Council (NPDC) operates four water supply schemes in the New Plymouth District. This report for the period July 2014 to June 2015 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the consent holder's environmental performance during the period under review, and the results and environmental effects of the consent holder's activities.

NPDC holds 20 resource consents, relating to those water supply systems which include a total of 142 conditions setting out the requirements that the consent holder must satisfy. There are seven consents to take and use water, four consents to discharge to water, eight consents to maintain structures, and one consent to discharge sludge onto and into land.

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

The Council's monitoring programme for the year under review included an annual inspection of each water supply scheme, three samples collected for water quality analysis, an assessment of the abstraction data provided, and a fish survey.

The monitoring showed that overall the NPDC water schemes are well operated and maintained and appeared to be having no adverse effects on the environment. A high level of suspended solids in the discharge from the Inglewood water treatment plant was discovered during the previous monitoring period, and continuing during July 2015 in the current monitoring period. This issue was resolved by de-sludging the settling reservoir. The effect of the discharge was found to be insignificant on receiving water quality.

The abstraction data that was provided by NPDC was sufficient to assess compliance with the various consented abstraction rates. The data showed that all daily volume limits and instantaneous abstraction rates were complied with.

During the year, the consent holder demonstrated a high level of environmental and administrative performance with the resource consents.

For reference, in the 2014-2015 year, 75% of consent holders in Taranaki monitored through tailored compliance monitoring programmes achieved a high level of environmental performance and compliance with their consents, while another 22% demonstrated a good level of environmental performance and compliance with their consents.

This report includes recommendations for the 2015-2016 year.

Table of contents

	Page
1. Introduction	1
1.1. Compliance monitoring programme reports and the Resource Management Act 1991	1
1.1.1. Introduction	1
1.1.2. Structure of this report	1
1.1.3. The Resource Management Act 1991 and monitoring	2
1.1.4. Evaluation of environmental performance	2
1.2. Process description	4
1.3. Resource consents	4
1.3.1. New Plymouth WTP	9
1.3.1.1. Water abstraction permit	9
1.3.1.2. Discharge permits	9
1.3.1.3. Land use permits	10
1.3.2. Inglewood WTP	11
1.3.2.1. Water abstraction permits	11
1.3.2.2. Discharge permit	12
1.3.2.3. Land use permits	12
1.3.3. Oakura WTP	13
1.3.3.1. Water abstraction permits	13
1.3.3.2. Discharge permit	13
1.3.3.3. Land use permit	14
1.3.4. Okato WTP	14
1.3.4.1. Water abstraction permit	14
1.3.4.2. Land use permit	15
1.3.5. Waitara Industrial water supply	15
1.3.5.1. Water abstraction permit	15
1.3.5.2. Discharge permit	15
1.3.5.3. Land use permit	16
1.3.6. Urenui dam	16
1.3.6.1. Land use permit	16
1.4. Monitoring programme	17
1.4.1. Introduction	17
1.4.2. Programme liaison and management	17
1.4.3. Site inspections	17
1.4.4. Water quality sampling	17
1.4.6. Review of abstraction and stream flow data	18
1.4.7. Fish surveys	18
2. Results	19
2.1. Inspections	19
2.1.1. New Plymouth	19
2.1.2. Inglewood	19
2.1.3. Oakura (contingency take site)	19
2.1.4. Okato	19
2.1.5. Waitara Industrial intake weir (contingency take site)	19
2.2. Receiving water quality	20
2.4. Abstraction and stream flow data	21
2.4.1. Abstraction data	21

2.4.2.	Stream flow data	21
2.5.	Fish surveys	24
2.5.1.	Urenui River (Urenui WTP)	24
2.5.2.	Mangorei and Mangatete streams (New Plymouth and Okato WTP's)	24
2.6.	Monitoring of upstream discharge consents	24
2.6.2.	Ngatoro catchment (Inglewood WTP)	25
2.6.3.	Mangatete catchment (Okato WTP)	25
2.8.	Investigations, interventions, and incidents	26
3.	Discussion	27
3.1.	Discussion of plant performance	27
3.2.	Environmental effects of exercise of consents	27
3.3.	Evaluation of performance	27
3.3.1.	New Plymouth WTP	28
3.3.2.	Inglewood WTP	31
3.3.3.	Oakura WTP	33
3.3.4.	Okato WTP	35
3.3.5.	Urenui dam	36
3.3.6.	Waitara industrial supply	37
3.4.	Recommendation from the 2013-2014 Annual Report	39
3.5.	Alterations to monitoring programmes for 2015-2016	39
3.6.	Exercise of optional review of consents	39
4.	Recommendations	40
	Glossary of common terms and abbreviations	41
	Bibliography and references	42
	Appendix I Resource consents held by New Plymouth District Council	
	Appendix II Fish survey report	

List of tables

Table 1	Summary of resource consents and processes	5
Table 2	Samples collected of the Inglewood WTP backwash and stream sites on 12 March 2015	20
Table 3	Summary of compliance with abstraction data requirements and abstraction limits	21
Table 4	Discharge consents upstream of the Inglewood WTP	25
Table 5	Discharge consents upstream of the Okato WTP	25
Table 6	Summary of performance for Consent 0672-3	28
Table 7	Summary of performance for Consent 0673-3	28
Table 8	Summary of performance for Consent 2055-3	29
Table 9	Summary of performance for Consent 5699-1	29
Table 10	Summary of performance for Consent 5700-1	30
Table 11	Summary of performance for Consent 6643-1	30
Table 12	Summary of performance for Consent 3934-2	31
Table 13	Summary of performance for Consent 4509-2	31
Table 14	Summary of performance for Consent 4510-2	32
Table 15	Summary of performance for Consent 5188-1	32
Table 16	Summary of performance for Consent 5869-1	33
Table 17	Summary of performance for Consent 1277-3	33
Table 18	Summary of performance for Consent 1278-4	34
Table 19	Summary of performance for Consent 5713-2	34
Table 20	Summary of performance for Consent 6114-1	35
Table 21	Summary of performance for Consent 0026-3	35
Table 22	Summary of performance for Consent 5989-1	36
Table 23	Summary of performance for Consent 0126-5	37
Table 24	Summary of performance for Consent 4816-2	38
Table 25	Summary of performance for Consent 4817-2	38

List of figures

Figure 1	Location of New Plymouth District Council water supply plants and structures	8
Figure 2	Graph showing the Mangatete Steam flow July 2014 - June 2015	23

List of photographs

Photo 1	Kakapo Stream fish pass	18
Photo 2	Sampling sites at Inglewood WTP	20

1. Introduction

1.1. Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1. Introduction

This report is the Annual Report for the period July 2014-June 2015 by the Taranaki Regional Council (the Council) on the monitoring programme associated with resource consents held by New Plymouth District Council (NPDC) for their various water supply schemes and water treatment plants (WTPs).

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consents held by NPDC that relate to abstractions and discharges of water, and in-stream structures.

One of the intents of the *Resource Management Act 1991* (RMA) is that environmental management should be integrated across all media, so that a consent holder's use of water, air, and land should be considered from a single comprehensive environmental perspective. Accordingly, the Council generally implements integrated environmental monitoring programmes and reports the results of the programmes jointly. This report discusses the environmental effects of the NPDC's use of water and land, and is the 17th combined annual report by the Council for NPDC in relation to their water supply schemes.

1.1.2. Structure of this report

Section 1 of this report is a background section. It sets out general information about compliance monitoring under the RMA and the Council's obligations and general approach to monitoring sites through annual programmes, the resource consents held by NPDC in relation to their water supply schemes, the nature of the monitoring programme in place for the period under review, and a description of the activities and operations conducted by NPDC in relation to water supplies.

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

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

Section 4 presents recommendations to be implemented in the 2015-2016 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 *Resource Management Act 1991* (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 a discharger, and may include cultural and socio-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);
- (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 performance

Besides discussing the various details of the performance and extent of compliance by the consent holder/s during the period under review, this report also assigns a rating as to the consent holder's 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 (i.e. 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 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 compliance

- **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.

For reference, in the 2014-2015 year, 75% of consent holders in Taranaki monitored through tailored compliance monitoring programmes achieved a high level of environmental performance and compliance with their consents, while another 22% demonstrated a good level of environmental performance and compliance with their consents.

1.2. Process description

The wtps operated by the NPDC generally operate in the following manner. Raw water is abstracted, coarse screened, and passed through clarifiers for coagulation and flocculation (aided by the addition of a chemical flocculent at some plants) and filtration. At one plant water is passed through cartridge filters. Chemicals are then used to adjust pH and chlorinate the water prior to distribution.

The waste products from backwashing of the filters (and clarifier bleed at some sites) are either discharged to land or to a surface waterway via a settling pond (or tank), or are contained in cartridges disposed of at landfills.

1.3. Resource consents

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.

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.

Section 13(1) (a) of the RMA stipulates that no person may use, erect, reconstruct, place, alter, extend, remove or demolish any structure or part of any structure in, on, under, or over the bed of any lake or river, unless the activity is expressly allowed for by a resource consent, or a rule in a Regional Plan and in any relevant proposed regional plan.

NPDC hold various resource consents for water abstraction, water and sludge discharges, and structures. These consents are listed in Table 1 with a brief process description for each plant, and locations are shown in Figure 1. Consent details are summarised in Sections 1.3.1 to 1.3.6.

Copies of all resource consents held by NPDC in relation to their water supply schemes are included in Appendix I.

Table 1 Summary of resource consents and processes

Water Supply Scheme	Resource consent	Next Review	Expires	Activity	Process
New Plymouth	0672 - Discharge	2020	2026	To discharge wastewater from a WTP into an unnamed tributary of the Mangorei Stream.	Raw water is abstracted from the Waiwhakaito River via Lake Mangamahoe. The Waiwhakaito River is diverted through a tunnel to augment the supply of Lake Mangamahoe. The consent for this diversion (2053) is held by Trust Power Ltd - Taranaki Generation and monitoring of this is included in the Mangamahoe Power Scheme monitoring programme. Two intakes in Lake Mangamahoe supply the New Plymouth WTP. Flocculent is added and water passes through clarifiers then sand filters. Water is disinfected (chlorine gas), pH buffered (lime) and fluoridated. Clarifier bleed and filter backwash is discharged to settling ponds in front of plant. Supernatant is returned to the treatment plant. Accumulated sludge is periodically discharged to land.
	0673 - Discharge	2020	2026	To discharge stormwater from a WTP into an unnamed tributary of the Mangorei Stream.	
	2055 – Take	2016	2021	Take up to 60,480 m ³ /day, at a maximum rate of 740 L/sec, from Lake Mangamahoe.	
	5699 – Land use	No further option for review before expiry	2020	To erect, place and maintain a pipe bridge over the Mangorei Stream.	
	5700 – Land use	No further option for review before expiry	2020	To disturb the bed of the Mangorei Stream by trenching to place and maintain a pipeline under the Mangorei Stream.	
	6643 – Land use	No further option for review before expiry	2020	To erect, place and maintain a weir in the Mangorei Stream.	

Water Supply Scheme	Resource consent	Next Review	Expires	Activity	Process
Inglewood	3934 - Take	No further option for review before expiry	2015*	Take up to 5,000 m ³ /day at 70 L/sec from the Ngatoro Stream via a weir as a contingency supply. Take up to 400 m ³ /day at 5 L/sec throughout the year for farm supply purposes.	Raw water is abstracted via an infiltration gallery in the bed of the Ngatoro Stream located near Dudley Road, approximately 4.5 km south west of Inglewood. There is also a contingency take via a weir (with a fish pass) located approximately 3 km further upstream near the end of Dudley Road. A flocculent is added to the raw water which is then passed through clarifiers and sand filters. The water is pH buffered (lime) and disinfected (chlorine gas). A new 4,500 m ³ reservoir was commissioned in July 2003. Clarifier bleed and filter backwash are discharged to a modified reservoir (1,250 m ³) which discharges to the Ngatoro Stream. Plant internal areas and chemical storage areas are drained to a sump which has a slide valve which blocks off a pipe leading to the nearby roadside drain. Probes are also contained within the sump to monitor the level of its contents. Water in the tank is tested and discharged to stormwater if appropriate. Otherwise the tank is emptied by a contractor to an appropriate facility.
	4509 – Land use	2021	2027	To maintain a water supply intake infiltration gallery in and adjacent to the Ngatoro Stream and to maintain a pipeline from the gallery to the water treatment station.	
	4510 – Take	No further option for review before expiry	2021	To take up to 4,850 m ³ /day at 56 L/sec from the Ngatoro Stream.	
	5188 – Land use	No further option for review before expiry	2015*	To license and maintain an existing weir structure in the Ngatoro Stream.	
	5869 – Discharge	No further option for review before expiry	2015*	To discharge clarifier bleed and filter backwash supernatant overflow from the Inglewood WTP into the Ngatoro Stream.	
Oakura	1277 – Discharge	2019	2025	To discharge filter backwash from the Oakura WTP onto and into land in the vicinity of the Wairau Stream.	Since April 2004 water is taken from a secure bore. The water is treated with sodium hypochlorite followed by lime injection for pH adjustment. Previously water was taken from weir (with a fish pass) in the Wairau Stream. The surface water take and backwash discharge consents have been retained for contingency purposes.
	1278 – Take	2019	2031	Take and use water from the Wairau Stream for Oakura water supply purposes.	
	5713– Land use	2019	2031	To use a weir to dam the Wairau Stream for Oakura water supply purposes.	
	6114 - Take	No further option for review before expiry	2020	To take and use groundwater from two bores for Oakura water supply purposes.	
Okato	0026 – Take	No further option for review before expiry	2019	To take water from the Mangatete Stream in the Kaihihi catchment for public water supply purposes.	Water taken from infiltration gallery and weir (with fish pass) on Mangatete Stream. Passed through cartridge filters (no flocculent or backwashing), pH buffered (lime) and disinfected (chlorine gas).

Water Supply Scheme	Resource consent	Next Review	Expires	Activity	Process
Waitara Industrial	0126 – Take	2018	2031	To take and use water from the Waiongana Stream to supply water for industry in Waitara.	This supply is not currently used and has been retained for contingency purposes.
	4816 – Land use	No further option for review before expiry	2020	To use and maintain an existing weir, fish pass and associated intake structures on the Waiongana Stream.	Raw water is diverted from the Waiongana Stream via a weir (with a fish pass) near Mountain Road, approximately 9 km south of Waitara.
	4817 – Discharge	No further option for review before expiry	2020	Discharge up to 250 L/sec of water and sediment from intake pipe cleaning and draining of settlement ponds into the Waiongana Stream.	Water is gravity fed through a settling pond system to a reservoir. There is no chemical treatment of water. The water is used for cooling water at a cool store in Waitara. In 2000 NPDC installed a new control system on the water take. A magnetic flow meter now closes the valve on the take as it nears the consent limit. The settling pond system is emptied periodically to land and the scouring discharge from the settling pond system is discharged to the Waiongana Stream periodically. (with a fish pass) near Mountain Road, approximately 9 km south of Waitara.
Urenui	5989 –Land Use	No further option for review before expiry	2021	To modify and maintain an existing earth retention structure (dam) on the Kakapo Stream.	Treatment plant decommissioned and removed, now supplied from the New Plymouth WTP. The weir has a fish pass.

* renewal process underway for these consents

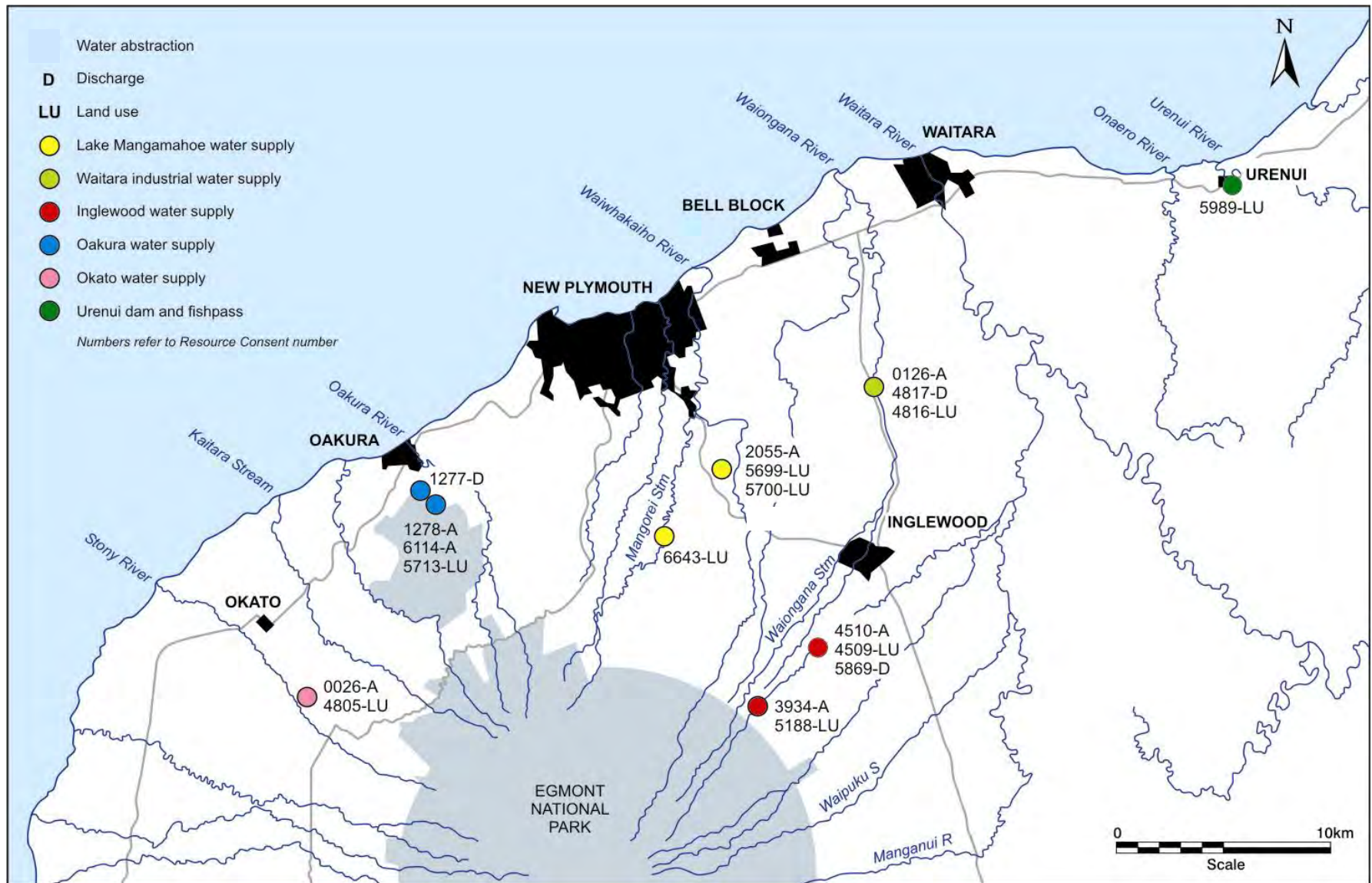


Figure 1 Location of New Plymouth District Council water supply plants and structures

1.3.1. New Plymouth WTP

1.3.1.1. Water abstraction permit

NPDC hold water permit **2055-3** to cover the abstraction of up to 60,480 m³/day, at a maximum rate of 740 L/sec, of water from Lake Mangamahoe. This consent was issued by the Council under Section 87(d) of the RMA on 25 June 2002. It expires on 1 June 2021.

Condition 1 requires the exercise of the consent to be in accordance with the information supplied in support of the application.

Condition 2 requires the adoption of the best practicable option to avoid or minimise any adverse effects on the environment.

Condition 3 requires screening of intake structures to avoid entrainment of fish.

Condition 4 requires the measuring of daily rates of abstraction and provides for the supply of abstraction data to the Council.

Condition 5 is a review provision.

1.3.1.2. Discharge permits

NPDC hold discharge permit **0672-3** to discharge wastewater from a WTP into an unnamed tributary of the Mangorei Stream in the Waiwhakaiho catchment. This consent was issued by the Council under Section 87(d) of the RMA on 30 May 2008. It expires on 1 June 2026.

Conditions 1 and 2 relate to adoption of the best practicable option and exercising in accordance with the application.

Conditions 3 and 4 relate to effects on surface water.

Conditions 5 and 6 are lapse and review conditions.

NPDC hold discharge permit **0673-3** to discharge wastewater from a WTP into an unnamed tributary of the Mangorei Stream in the Waiwhakaiho catchment. This consent was issued by the Council under Section 87(d) of the RMA on 30 May 2008. It expires on 1 June 2026.

Conditions 1 and 2 relate to adoption of the best practicable option and exercising in accordance with the application.

Conditions 3 to 6 relate to catchment area, stormwater management and contingency plans, and hazardous substances.

Conditions 7 and 8 relate to effects on surface water.

Conditions 9 and 10 are lapse and review conditions.

1.3.1.3. Land use permits

NPDC hold land use permit **5699-1** to erect, place and maintain a pipe bridge over the Mangorei Stream in the Waiwhakaiho catchment. This resource consent was issued by the Council under Section 87(a) of the RMA on 9 November 2000. It expires on 1 June 2020.

Condition 1 requires notification of the Council prior to major construction and maintenance works.

Condition 2 requires the structure to be constructed in accordance with the documentation supporting the original application.

Condition 3 requires the adoption of best practicable option to avoid or minimise any adverse effects.

Condition 4 requires the minimising of area and volume of riverbed and bank disturbance and reinstatement of disturbed areas.

Condition 5 deals with the removal of the structure when no longer required.

Condition 6 is a review provision.

NPDC hold land use permit **5700-1** to disturb the bed of the Mangorei Stream by trenching to erect, place and maintain a pipeline under the Mangorei Stream in the Waiwhakaiho catchment. This resource consent was issued by the Council under Section 87(a) of the RMA on 30 January 2001. It expires on 1 June 2020.

Condition 1 requires notification prior to construction or maintenance works.

Condition 2 requires the structure to be constructed in accordance with the documentation supporting the original application.

Condition 3 restricts major in-stream works to the period 1 November to 30 April.

Condition 4 requires adoption of best practical option to avoid or minimise any adverse effects.

Condition 5 requires the minimising of area and volume of riverbed and bank disturbance and reinstatement of disturbed areas.

Condition 6 deals with the removal of the structure when no longer required.

Condition 7 is a review provision.

NPDC hold land use permit **6643-1** to erect, place and maintain a weir in the Mangorei Stream in the Waiwhakaiho catchment. This resource consent was issued by the Council under Section 87(a) of the RMA on 1 August 2005. It expires on 1 June 2020.

Condition 1 requires the adoption of the best practicable option to prevent or minimise adverse effects.

Condition 2 requires the consent to be exercised in accordance with the documentation supporting the application.

Condition 3 allows for a review should monitoring show that densities of brown trout upstream are increasing.

Condition 4 requires annual inspections of the structure by the consent holder and the provision of a report to the Council.

Condition 5 requires notification of the Council prior to any maintenance works.

Condition 6 requires the adoption of best practicable option during maintenance works to minimise adverse effects.

Condition 7 prohibits maintenance works between 1 May to 31 October.

Conditions 8 and 9 are lapse and review provisions.

1.3.2. Inglewood WTP

1.3.2.1. Water abstraction permits

NPDC held water permit **3934-2** to abstract up to 5,000 m³/day, at a maximum rate of 70 L/sec, of water from a weir on the Ngatoro Stream as a contingency supply. The consent also permits the abstraction of 400 m³/day of water at a maximum rate of 5 L/sec throughout the year for farm supply purposes. This resource consent was issued by the Council under Section 87(d) of the RMA on 23 March 1994. The consent expired on 1 June 2015, and continues to be exercised under protection of section 124 of the RMA during the renewal process.

Condition 1 limits the volume and rate of abstraction of the two takes combined.

Condition 2 requires the measuring of daily rates of abstraction and provides for the supply of abstraction data to the Council.

Condition 3 is a review provision.

NPDC hold water permit **4510-2** to take and use water from the Ngatoro Stream a tributary of the Manganui River in the Waitara catchment, for Inglewood urban water supply purposes. This resource consent was issued by the Council under Section 87(d) of the RMA on 12 June 2009. It expires on 1 June 2021.

Condition 1 specifies the volume and rate of abstraction.

Conditions 2 and 4 relate to records.

Condition 3 concerns the abstraction rate in an emergency.

Condition 5 requires the efficient and conservative use of water.

Condition 6 requires fish screening.

Conditions 7 and 8 concern lapse and review.

1.3.2.2. Discharge permit

NPDC held water discharge permit **5869-1** to discharge up to 48 L/sec of clarifier bleed and filter backwash supernatant overflow from the Inglewood WTP into the Ngatoro Stream, a tributary of the Manganui River in the Waitara catchment. This resource consent was issued by the Council under Section 87(e) of the RMA on 23 October 2001. The consent expired on 1 June 2015, and continues to be exercised under protection of section 124 of the RMA during the renewal process.

Condition 1 limits the discharge rate.

Condition 2 deals with the management of the settlement facility.

Condition 3 prohibits certain effects in the receiving waters.

Condition 4 places limits on certain contaminants in the discharge.

Condition 5 is a review provision.

1.3.2.3. Land use permits

NPDC hold land use permit **4509-2** to maintain a water supply intake infiltration gallery in and adjacent to the Ngatoro Stream, a tributary of the Manganui River in the Waitara catchment and to maintain a pipeline from the gallery to the water treatment station for Inglewood urban water supply purposes. This resource consent was issued by the Council under Section 87(a) of the RMA on 12 June 2009. It expires on 1 June 2027.

Conditions 1 to 4 relate to riverbed disturbance and sediment.

Condition 5 requires removal and reinstatement when the structure is no longer required.

Condition 6 states that fish passage shall not be restricted.

Conditions 7 and 8 concern lapse and review.

NPDC held land use permit **5188-1** to license and maintain an existing weir structure in the Ngatoro Stream. This resource consent was issued by the Council under Section 87(a) of the RMA on 19 August 1997. The consent expired on 1 June 2015, and continues to be exercised under protection of section 124 of the RMA during the renewal process.

Condition 1 requires the provision of fish passage.

Condition 2 is a review provision.

1.3.3. Oakura WTP

1.3.3.1. Water abstraction permits

NPDC hold water permit **1278-4** to take and use water from the Wairau Stream for Oakura water supply purposes. This resource consent was reissued by the Council under Section 87(d) of the RMA on 12 September 2013. It expires on 1 June 2031.

Conditions 1 and 2 state that the consent only be exercised as a contingency measure. When abstraction is required, the water take is limited to 1,300 m³ per day.

Conditions 3 to 7 deal with the installation and maintenance of a water meter and datalogger at the site of taking, along with the provision of data to Council.

Condition 8 requires a financial contribution when the consent is exercised.

Condition 9 deals with best practicable option to prevent or minimise adverse effects.

Condition 10 requires the provision of an annual report to Council.

Condition 11 is a review provision.

NPDC hold water permit **6114-1** to take and use groundwater from two bores for Oakura water supply purposes. This resource consent was issued by the Council under Section 87(d) of the RMA on 19 March 2003. It expires on 1 June 2020.

Condition 1 requires the consent to be exercised in accordance with the information submitted with the application.

Conditions 2 and 4 require the adoption of best practicable option and the minimising of adverse environmental effects.

Condition 3 places limits on the volume and rate of abstraction.

Condition 5 requires the measuring of daily rates of abstraction and provides for the supply of abstraction data to the Council.

Condition 6 is a review provision.

1.3.3.2. Discharge permit

NPDC hold water discharge permit **1277-3** to discharge filter backwash from the Oakura WTP onto and into land in the vicinity of the Wairau Stream. This resource consent was issued by the Council under Section 87(e) of the RMA on 12 December 2006. It expires on 1 June 2025.

Condition 1 requires the adoption of the best practicable option.

Condition 2 requires the consent to be exercised in accordance with the application documentation.

Condition 3 places limits on certain components of the discharge.
Condition 4 prohibits certain effects on the receiving waters.

Condition 5 is a review provision.

1.3.3.3. Land use permit

NPDC hold land use permit **5713-2** to use a weir to dam the Wairau Stream for Oakura water supply purposes. This resource consent was issued by the Council under Section 87(a) of the RMA on 12 September 2013. It expires on 1 June 2031.

Condition 1 requires that the weir be maintained in accordance with submitted plans.

Condition 2 requires screening of the intake to avoid entrapment of fish while condition 3 requires the provision of fish passage.

Condition 4 is a review provision.

1.3.4. Okato WTP

1.3.4.1. Water abstraction permit

NPDC hold water permit **0026-3** to take water from the Mangatete Stream in the Kaihihi catchment for public water supply purposes. This resource consent was issued by the Council under Section 87(d) of the RMA on 14 June 2007, with changes made in September 2011. It expires on 1 June 2019.

Condition 1 requires the adoption of the best practicable option.

Condition 2 requires the consent to be exercised in accordance with the application documentation.

Condition 3 places a limit on the volume and rate of abstraction.

Condition 4 requires the consent holder to notify the Council of faults or incidents which lead to abstraction over the limit.

Condition 5 deals with the installation of a staff gauge.

Condition 6 requires water conservation measures to be put in place when flows are reduced to a particular level.

Condition 7 requires restriction of abstraction to an absolute minimum when flow is reduced to a particular level.

Condition 8 requires the keeping of abstraction records and the forwarding of these to the Council.

Condition 9 requires the emergency intake structure be appropriately screened to

avoid entrapment of fish.

Conditions 10 and 11 are lapse and review provisions.

1.3.4.2. Land use permit

NPDC held land use permit **4805-1** to construct and maintain an infiltration gallery in the Mangatete Stream for water supply purposes. This resource consent was issued by the Council under Section 87(a) of the Resource Management Act on 20 October 1995. It expired on 1 June 2013 and NPDC now hold a certificate of compliance for this activity as it is classed as a permitted activity under rules 52 and 53 of the Regional Freshwater Plan.

1.3.5. Waitara Industrial water supply

1.3.5.1. Water abstraction permit

NPDC hold water permit **0126-5** to take and use water from the Waiongana Stream to supply water for industry in Waitara. This resource consent was issued by the Council under Section 87(d) of the RMA on 21 June 2013. It expires on 1 June 2031.

Condition 1 places a limit on the rate of abstraction.

Condition 2 requires the consent holder to notify Council prior to exercise of consent.

Conditions 3 to 6 require the installation, maintenance and accessibility of a water meter and datalogger prior to exercising the consent. While condition 7 deals with the recording of the logged information.

Conditions 8 and 9 allow the Council to suspend or reduce the abstraction during low flow events.

Condition 10 requires that the consent holder adopts the best practicable option to prevent or minimise environmental effects.

Condition 11 states that the intake be screened to avoid fish entrapment.

Conditions 12 and 13 require a financial contribution and reporting when exercising the consent.

Conditions 14 and 15 are lapse and review provisions.

1.3.5.2. Discharge permit

NPDC hold water discharge permit **4817-2** to discharge up to 250 L/sec of water and sediment from intake pipe cleaning and draining of settling ponds into the Waiongana Stream. This resource consent was issued by the Council under Section 87(e) of the RMA on 15 July 2003. It expires on 1 June 2020.

Condition 1 requires records of cleaning and draining operations to be kept and forwarded to the Council.

Condition 2 requires notification prior to discharge.

Condition 3 details flow conditions when discharge is permitted. Discharge under other flow conditions is only permitted with prior written approval.

Conditions 4 and 5 prohibit certain effects in the receiving waters.

Condition 6 is a review provision.

1.3.5.3. Land use permit

NPDC hold land use permit **4816-2** to undertake modifications and upgrade the water supply intake, weir, fish pass and associated structures within the Waiongana Stream. This work has been completed. This resource consent was issued by the Taranaki Regional Council under Section 87(a) of the RMA on 16 June 2003. It expires on 1 June 2020.

Condition 1 requires notification of the Council prior to maintenance works.

Condition 2 requires adoption of best practicable option to avoid or minimise any adverse effects.

Condition 3 requires the area of disturbance caused by maintenance works to be minimised and disturbed areas reinstated.

Condition 4 prohibits maintenance works during 1 May to 31 October without prior written approval.

Condition 5 requires the structure to be maintained to ensure consent compliance. Condition 6 requires provision of fish passage.

Condition 7 deals with the removal of the structure when no longer required.

Condition 8 is a review provision.

1.3.6. Urenui dam

1.3.6.1. Land use permit

NPDC hold land use permit **5989-1** to modify and maintain an existing earth retention structure (dam) on the Kakapo Stream. This resource consent was issued by the Council under Section 87(a) of the RMA on 9 April 2002. It expires on 1 June 2021.

Condition 1 requires notification of the Council prior to maintenance works.

Condition 2 requires provision of fish passage.

Conditions 3 and 4 require adoption of best practicable option and minimising of adverse environmental effects.

Condition 5 requires maintenance of the structure to ensure compliance with consent conditions.

Condition 6 requires the removal of the structure when no longer required and the reinstatement of the area.

Condition 7 is a review provision.

1.4. Monitoring programme

1.4.1. Introduction

Section 35 of the RMA sets out obligations upon the Council to gather information, monitor, and conduct research on the exercise of resource consents, and the effects arising, within the Taranaki region and report upon these.

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 NPDC's water supplies consisted of five 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 reviews;
- renewals;
- new consents;
- advice on the Council's environmental management strategies and content of regional plans and;
- consultation on associated matters.

1.4.3. Site inspections

The NPDC water supplies and associated structures were each visited once during the monitoring period. With regard to consents for the abstraction of or 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. Sources of data being collected by the consent holder were identified and accessed, so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council. The neighbourhood was surveyed for environmental effects.

1.4.4. Water quality sampling

A sample of the Inglewood WTP filter backwash discharge was collected on one occasion, along with samples of the receiving water of the Ngatoro Stream – upstream and downstream. The samples were analysed for chlorine, pH, suspended solids (discharge) and turbidity (stream sites).

1.4.6. Review of abstraction and stream flow data

NPDC provide Council with the volume of water abstracted from each site. They also provide stage data for the Mangatete Stream from which flow data is calculated.

1.4.7. Fish surveys

During the monitoring period, one night spotting survey was conducted in the Kakapo Stream in relation to the decommissioned Urenui water supply dam and fish pass (Photo 1).



Photo 1 Kakapo Stream fish pass

2. Results

2.1. Inspections

An annual inspection of NPDC's water treatment activities was made on 12 March 2015. The inspection focused on intake structures and fish passage during low flows.

2.1.1. New Plymouth

No issues were found at the site or at the intake structures.

The Mangorei weir was originally installed to monitor stream flows and is now retained by NPDC as a potential contingency water supply point. The weir has no fish passage and at present this is not required by consent conditions. The weir was found to be in good condition and no issues were noted.

A review of the abstraction data to date showed that no exceedances had occurred during the monitoring period.

2.1.2. Inglewood

The Ngatoro Stream was running clean and clear at low flow.

A review of the abstraction data to date showed that no exceedances had occurred during the monitoring period. NPDC is still undergoing preparatory work to comply with NES water metering requirements at this site.

2.1.3. Oakura (contingency take site)

The Wairau Stream was running clean and clear at low flow. There was adequate flow down the fish pass and this was free of debris.

Water is no longer abstracted from this stream, however the structures and consent are retained for contingency purposes.

2.1.4. Okato

The Mangatete Stream was running clean and clear at a low flow. The boulders set against the damaged section the weir were working well to keep good flow in the fish pass. Stream bed works to clear out accumulated cobbles and boulders was continuing.

A review of the abstraction data to date showed that no exceedances have occurred during this monitoring period. NPDC is still undergoing preparatory work to comply with NES water metering requirements at this site.

2.1.5. Waitara Industrial intake weir (contingency take site)

The Waiongana River was in low flow with some foaming present. The flow down the fish pass was good and no debris were present in the fish pass. No issues were noted with the site. The raw water reservoir was inspected, this was being trialed with ultrasonic algae control.

2.2. Receiving water quality

A routine sample of the Inglewood WTP filter backwash was collected on 12 March 2015, along with samples from upstream and downstream (see photo 2). The results are presented below in Table 2.



Photo 2 Sampling sites at Inglewood WTP

Table 2 Samples collected of the Inglewood WTP backwash and stream sites on 12 March 2015

Parameter	Unit	Site			Consent limit (discharge)
		STW002037	Upstream NGT000185	Downstream NGT000186	
Chlorine filtered	g/m ³	0.01	<0.01	<0.01	0.1
Conductivity	mS/m@20°C	9.3	9.1	9.1	
pH		7.1	7.6	7.6	6.5 – 8.5
Suspended solids	g/m ³	8	-	-	20
Temperature	°C	16.8	15.6	15.7	
Turbidity	NTU	-	2.0	2.2	

Chlorine, suspended solids and pH levels in the discharge complied with those set by consent **5869-1**.

2.4. Abstraction and stream flow data

2.4.1. Abstraction data

As a condition of their resource consents to abstract water, NPDC are required to record the daily volumes abstracted at each site. This data is to be made available to the Council on request. The data was assessed against either daily volumes and /or instantaneous take rates depending on consent conditions. A summary of compliance in regard to abstraction data is given in **Error! Reference source not found.**

Table 3 Summary of compliance with abstraction data requirements and abstraction limits

Site	Records supplied on time?	%Compliance daily volumes	%Compliance abstraction rate	%Completeness of data
New Plymouth	Yes	100%	100%	100%
Inglewood	Yes	100%	100%	100%
Oakura	Yes	100%	100%	100%
Okato	Yes	100%	100%	100%

A complete set of abstraction data for each site was provided as requested and there was 100% compliance with daily volumes and abstraction rates at all four locations.

There were no abstractions from the Waiongana Stream in relation to the Waitara industrial supply during the 2014-2015 monitoring period (contingency only).

2.4.2. Stream flow data

Consent 0026-3, to take water from the Mangatete Stream in the Kaihihi catchment for public water supply purposes, includes the following two conditions:

Condition 6:

When the flow in the Mangatete Stream, measured beneath the Saunders Road bridge, is less than 180 L/sec for a period of seven or more consecutive days, water conservation practices are to be put in place by the consent holder (i.e. garden water only to be used every second day).

Condition 7:

When the flow in the Mangatete Stream, measured beneath the Saunders Road bridge, is less than 120 L/sec for a period of seven or more consecutive days, the taking of water shall be restricted to the minimum amount necessary to maintain the health of people and animals (i.e. garden water and other non-essential uses are prohibited).

NPDC monitor the stage of the Mangatete Stream at the Saunders Road bridge and from this calculate the stream flow (refer to Figure 2). In addition, the Council

conducts three gaugings per year to maintain a rating curve.

Flow data derived from the stage sensors and the rating curve show that residual flow in the Mangatete dipped below the 180 L/sec trigger for conservation measures during January 2015 (12 days), late February/early March 2015 (14 days) and mid-late March 2015 (9 days). NPDC implemented water restrictions as required.

The flow dropped below 120 L/sec in late January, early March and mid-March. As the low flows were of a duration of less than seven consecutive days water restrictions were not required as per condition 7 of consent 0026-3.

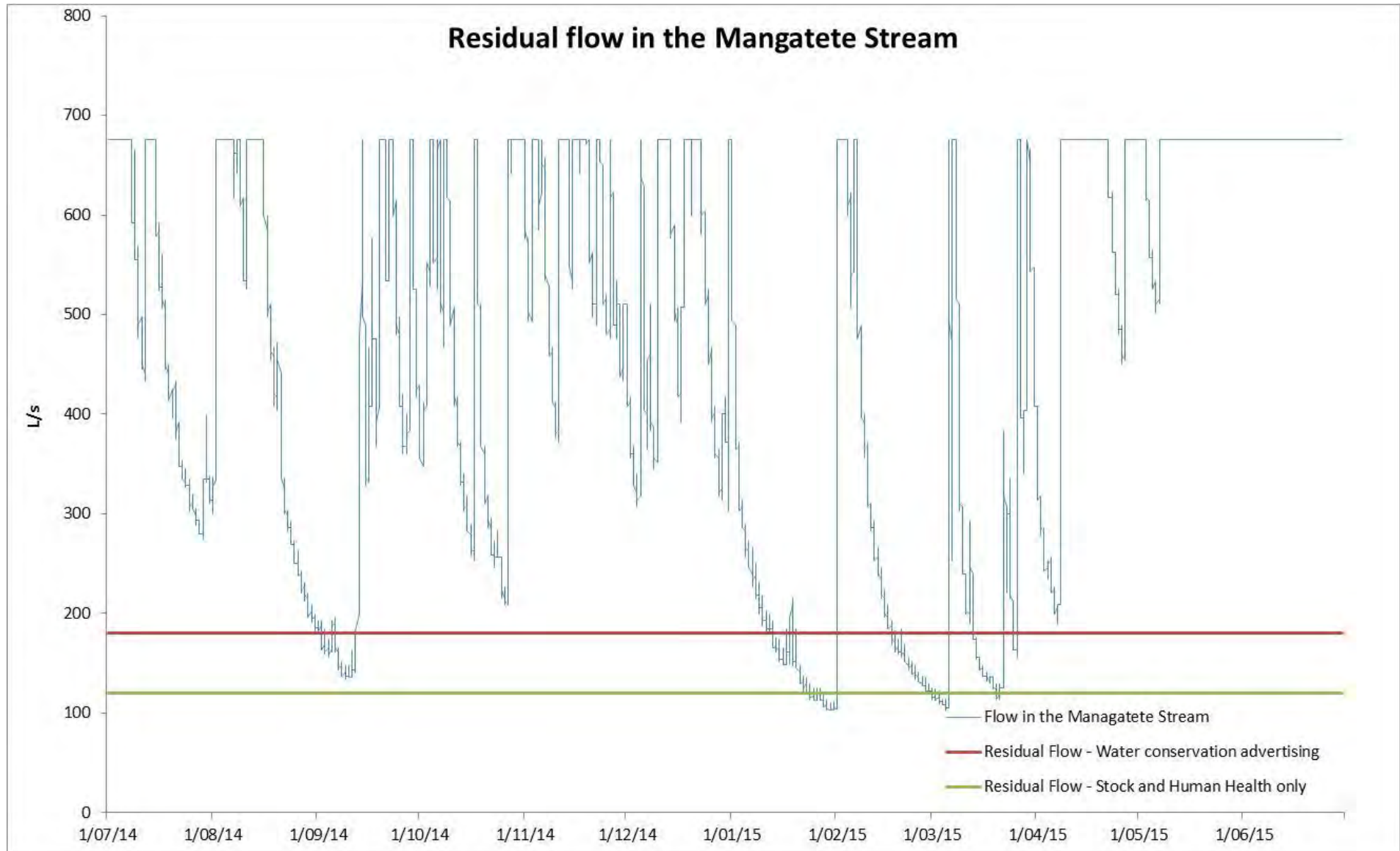


Figure 2 Graph showing the Mangatete Steam flow July 2014 – June 2015

2.5. Fish surveys

2.5.1. Urenui River (Urenui WTP)

A fish survey (night spotting) was conducted on 23 April 2015 upstream and downstream of the decommissioned NPDC Urenui water supply dam in the Kakapo Stream. A low fish diversity was recorded, although this is considered a reflection of the swift flows and overgrown nature of the surveyed reaches, making it difficult to see the fish.

The presence of an abundant population of banded kokopu upstream of the dam in the current survey, and the presence of inanga and redfin bully upstream of the dam in previous surveys, suggests that the fish pass provides adequate passage for fish with poor to strong climbing abilities. The previous survey recorded longfin eel upstream of the dam, and although no eels were recorded upstream of the dam in the current survey, a visual assessment of the spillway supports previous conclusions that the fish pass was not expected to pose a barrier to these strong climbing fish.

Although a more diverse community was recorded downstream of the dam, this reach also had the most diverse habitat, and is therefore more likely to support a more diverse community. There were no new species recorded at either site during the current survey, but the stream continued to support good populations of galaxiids, included giant kokopu, and freshwater mussel, although these two species were only recorded downstream of the weir.

Monitoring to date suggests that compliance with special condition 2 of resource consent 5989 is currently being achieved. In addition, a visual assessment of the lower portion of spillway indicates that the structure is stable, with no obvious change to the channel. Therefore it is concluded that this structure is unlikely to pose a barrier to fish passage in the near future, and hence it is recommended that fish surveys of the Kakapo Stream are discontinued. However, it should be replaced with an inspection of the spillway, with this inspection occurring at a frequency no less than once every two years. This inspection should focus on the downstream end, where it re-enters the stream channel, but would preferably also extend right up the spillway.

2.5.2. Mangorei and Mangatete streams (New Plymouth and Okato WTP's)

Fish surveys were scheduled to be conducted during the monitoring period at two sites in the Mangorei and Mangatete streams, however these were unable to be completed and will be instead undertaken in the 2015-2016 monitoring period.

2.6. Monitoring of upstream discharge consents

NPDC have indicated that the Inglewood WTP and Okato WTP are particularly susceptible to any event which may affect the incoming raw water quality. At their request, this section has been included to summarise the monitoring of consents upstream of these WTPs, where there is a potential for the discharge of contaminants to water.

2.6.2. Ngatoro catchment (Inglewood WTP)

There are four discharge consents upstream of the Inglewood WTP abstraction point on the Ngatoro Stream, which are monitored by the Council. Details are summarised in Table 4.

Table 4 Discharge consents upstream of the Inglewood WTP

Consent No.	Purpose	Monitoring	Compliance achieved?
1351-3	To discharge farm dairy effluent after treatment in an oxidation pond system: in all its forms onto land; and in liquid form only into the Ngatoro Stream when the land disposal area is unsuitable for effluent disposal	Annual inspection	Yes
1477-3	To discharge dairy effluent from an oxidation pond treatment system into the Ngatoro Stream	Annual inspection	Yes
2266-2	To discharge dairy effluent from an oxidation pond treatment system into an unnamed tributary of the Ngatoro Stream	Annual inspection	Yes
5763-1	To discharge untreated farm dairy effluent by spray irrigation onto and into land and/or to discharge treated farm dairy effluent from an oxidation pond treatment system into the Ngatoro Stream	Annual inspection	Yes

During the monitoring period there were no incidents recorded by the Council that were related to discharges to water upstream of the Inglewood WTP abstraction point on the Ngatoro Stream.

2.6.3. Mangatete catchment (Okato WTP)

There are four discharge consents upstream of the Okato WTP abstraction point on the Mangatete Stream, which are monitored by the Council. Details are summarised in Table 5.

Table 5 Discharge consents upstream of the Okato WTP

Consent No.	Purpose	Monitoring	Compliance achieved?
1001-4	To discharge treated dairy shed effluent by oxidation ponds into the Mangatete Stream	Annual inspection	Yes
2379-2	To discharge untreated farm dairy effluent by spray irrigation onto and into land	Annual inspection	Yes
3969-2	To discharge dairy effluent from an oxidation pond treatment system and a wetland into the Mangatete Stream	Annual inspection	Yes
4991-2	To discharge partially treated farm dairy effluent by holding pond and spray irrigation onto and into land	Annual inspection	Yes

During the monitoring period there were no incidents recorded by the Council that were related to discharges to water upstream of the Okato WTP abstraction point on the Mangatete Stream.

2.8. 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 the consent holder. 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 courses 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 (IR) includes events where the Company 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 2014-2015 period, it was not necessary for the Council undertake significant interventions. Investigations or to record incidents in relation to WTPs in the New Plymouth District. At the beginning of the monitoring period NPDC were in the process in resolving an incident recorded in relation to a non-compliant sample taken from the Inglewood WTP backwash, however this was reported in the 2013-2014 monitoring period. NPDC was very proactive in addressing the issue and putting procedures to ensure it did not re-occur.

3. Discussion

3.1. Discussion of plant performance

During the monitoring period the plants were well run and organised. Abstraction data was provided to Council in a timely manner and all daily abstraction volumes were in compliance with consent conditions.

NPDC continued to upgrade and modernise flow meters at the various sites in order to meet National Environmental Standards for water measurement. NPDC is acting cooperatively with Council and currently undertaking investigations and allocating funding to address these compliance issues.

3.2. Environmental effects of exercise of consents

Overall there were no significant adverse impacts on the environment, occurring from the exercise of resource consents held by NPDC in relation to their WTP's and water supply schemes. This was supported by inspections of abstraction and discharge points, and supply weirs noted compliance.

A fish survey carried out in the Kakapo Stream (decommissioned Urenui water supply dam and fish pass) showed that fish passage was being provided.

Extra sampling and inspections showed that there were no significant adverse effects from the non compliant discharges found in June and July 2014.

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 6-25.

3.3.1. New Plymouth WTP

Table 6 Summary of performance for Consent 0672-3

Purpose: To discharge wastewater into an unnamed tributary of the Mangorei Stream in the Waiwhakaiho catchment		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option	No discharge in monitoring year	N/A
2. Exercise of consent in accordance with information submitted in support of application	No discharge in monitoring year	N/A
3. Limits not to be exceeded in the discharge	No discharge in monitoring year	N/A
4. Discharge not to cause certain effects in the receiving waters	No discharge in monitoring year	N/A
5. Lapse provision	Not applicable	N/A
6. Optional review provision re environmental effects	Next option to review in June 2020	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		N/A
Overall assessment of administrative performance in respect of this consent		N/A

Table 7 Summary of performance for Consent 0673-3

Purpose: To discharge stormwater into an unnamed tributary of the Mangorei Stream in the Waiwhakaiho catchment		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option	Inspection and liaison with consent holder	Yes
2. Exercise of consent in accordance with information submitted in support of application	Inspection and liaison with consent holder	Yes
3. Catchment area not to exceed 2 ha	Inspection	Yes
4. Requirement for a Management Plan	WTP Emergency Management Plan	Yes
5. Requirement for a Contingency Plan	WTP Emergency Management Plan	Yes
6. Hazardous substance storage areas to be bunded	Inspection	Yes
7. Limits not to be exceeded in the discharge	Sampling - not sampled during monitoring period	N/A
8. Discharge not to cause certain effects in the receiving waters	Inspection	Yes
9. Lapse provision	Not applicable	N/A
10. Optional review provision re environmental effects	Next option to review in June 2020	N/A

Purpose: To discharge stormwater into an unnamed tributary of the Mangorei Stream in the Waiwhakaiho catchment		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
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

Table 8 Summary of performance for Consent 2055-3

Purpose: To take up to 60,480 m ³ /day at a maximum rate of 740 L/ sec of water from Lake Mangamahoe		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. To take up to 60,480 m ³ /day at a maximum rate of 740 l/s.	Review of abstraction data	Yes
2. Exercise of consent in accordance with information submitted in support of application	Inspection and liaison with consent holder	Yes
3. Adoption of best practicable option	Inspection and liaison with consent holder	Yes
4. Screening of intake structures	Inspection	Yes
5. Recording of abstraction rates and provision of data to Council	Data forwarded to Council and reviewed	Yes
6. Optional review provision re environmental effects	Next option for review 2016, recommendation attached in section 3.7	Yes
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

Table 9 Summary of performance for Consent 5699-1

Purpose: To erect, place and maintain a pipe bridge over the Mangorei Stream in the Waiwhakaiho catchment		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Notification of Council prior to construction and maintenance works	No maintenance in monitoring year	N/A
2. Exercise of consent in accordance with information submitted in support of application	No maintenance in monitoring year	N/A
3. Adoption of best practicable option	No maintenance in monitoring year	N/A
4. Minimise disturbance of riverbed and bank and reinstatement of areas disturbed	No maintenance in monitoring year	N/A
5. Removal of structure when no longer required and reinstatement of the area. Notification of Council prior to removal of structure	Not applicable	N/A
6. Optional review provision re environmental effects	No further option for review before expiry	N/A

Purpose: To erect, place and maintain a pipe bridge over the Mangorei Stream in the Waiwhakaiho catchment		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
Overall assessment of consent compliance and environmental performance in respect of this consent		N/A
Overall assessment of administrative performance in respect of this consent		N/A

Table 10 Summary of performance for Consent 5700-1

Purpose: To disturb the bed of the Mangorei Stream by trenching to erect, place and maintain a pipeline under the Mangorei Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Notification of Council prior to construction and maintenance works	No maintenance in monitoring year	N/A
2. Exercise of consent in accordance with information submitted in support of application	No maintenance in monitoring year	N/A
3. Disturbance of riverbed areas covered by water	No maintenance in monitoring year	N/A
4. Adoption of best practicable option	No maintenance in monitoring year	N/A
5. Minimise disturbance of riverbed and bank and reinstatement of areas disturbed	No maintenance in monitoring year	N/A
6. Removal of structure when no longer required and reinstatement of the area. Notification of Council prior to removal of structure	Not applicable	N/A
7. Optional review provision re environmental effects	No further option for review before expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		N/A
Overall assessment of administrative performance in respect of this consent		N/A

Table 11 Summary of performance for Consent 6643-1

Purpose: To erect, place and maintain a weir in the Mangorei Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option	Liaison with consent holder	Yes
2. Consent to be exercised in line with application documentation	Liaison with consent holder	Yes
3. Review provision	A review was not necessary	N/A
4. Annual inspection by consent holder and report to Council	Report received	Yes
5. Notification of Council prior to maintenance works	No maintenance in monitoring year	N/A

Purpose: To erect, place and maintain a weir in the Mangorei Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
6. Adoption of best practicable option during maintenance works	No maintenance in monitoring year	N/A
7. No maintenance to occur 1 May to 31 October unless waived by Council	No maintenance in monitoring year	N/A
8. Lapse provision	Not applicable – consent exercised	N/A
9. Review provision	No further option for review before expiry	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

3.3.2. Inglewood WTP

Table 12 Summary of performance for Consent 3934-2

Purpose: To take water from the Ngatoro Stream (contingency take and farm take)		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Limit on combined abstraction from Ngatoro Stream	Contingency take not exercised	N/A
2. Install and operate measuring device	Contingency take not exercised	N/A
3. Optional review provision re environmental effects	Expired 1 June 2015, no further option for review .	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		N/A
Overall assessment of administrative performance in respect of this consent		N/A

Table 13 Summary of performance for Consent 4509-2

Purpose: To maintain a water supply intake infiltration gallery in and adjacent to the Ngatoro Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Any works to be undertaken only between 1 November and 30 April	Liaison with consent holder – no works undertaken during monitoring period	Yes
2. Notification of Council 48 hrs prior to maintenance works	Liaison with consent holder – no works undertaken during monitoring period	Yes
3. Minimise areas of disturbance	Liaison with consent holder – no works undertaken during monitoring period	Yes
4. Undertake works in accordance with guidelines	Liaison with consent holder – no works undertaken during monitoring period	Yes

Purpose: To maintain a water supply intake infiltration gallery in and adjacent to the Ngatoro Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
5. Structure to be removed and area reinstated when no longer required	Not applicable - structure in use	N/A
6. Structure not to restrict fish passage	Inspection	Yes
7. Lapse condition	Not applicable	N/A
8. Optional review provision re environmental effects	Next option for review in June 2021	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

Table 14 Summary of performance for Consent 4510-2

Purpose: To take and use water from the Ngatoro Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Abstraction not to exceed 4,850 m ³ /day or 56 L/sec	Review of abstraction data	Yes
2. Requirement for water meter and data logger	This has been installed or application to locate not at point of abstraction?	Yes
3. Emergency take and notification	Not exercised	N/A
4. Provision of data to Council	Data received	Yes
5. Efficient and conservative use of water	Liaison with consent holder	Yes
6. Intake screened for fish	Inspection	Yes
7. Lapse condition	Not applicable	N/A
8. Optional review provision re environmental effects	No further option for review prior to expiry	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

Table 15 Summary of performance for Consent 5188-1

Purpose: To license and maintain an existing weir structure in the Ngatoro Stream a tributary of the Manganui River in the Waitara Catchment		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Maintenance of weir to enable fish passage	Inspection and triennial fish survey	Yes

2. Optional review provision re environmental effects	Consent expired June 2015	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

Table 16 Summary of performance for Consent 5869-1

Purpose: To discharge clarifier bleed and filter backwash supernatant overflow from the Inglewood WTP into the Ngatoro Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Limit on discharge rate	Not monitored	N/A
2. Proper and efficient maintenance and operation of settlement facility	Inspection	Yes
3. Discharge not to cause certain effects in the Ngatoro Stream below the established mixing zone	Inspection and sampling	Yes
4. Limits on certain contaminants in discharge	Sampling	Mostly – suspended solids above limit at beginning of monitoring period but this issue has been remedied
5. Optional review provision re environmental effects	No further option for review before expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Good
Overall assessment of administrative performance in respect of this consent		High

3.3.3. Oakura WTP**Table 17 Summary of performance for Consent 1277-3**

Purpose: To discharge filter backwash from the Oakura WTP onto and into land in the vicinity of the Wairau Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practice	No discharge in monitoring year	N/A
2. Consent exercised in accordance with information supplied	No discharge in monitoring year	N/A
3. Discharge quality	No discharge in monitoring year	N/A
4. Effects of discharge	No discharge in monitoring year	N/A
5. A review provision	No further option for review before expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		N/A
Overall assessment of administrative performance in respect of this consent		N/A

Table 18 Summary of performance for Consent 1278-4

Purpose: To take and use water from the Wairau Stream for Oakura water supply purposes		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Abstraction as contingency measure only	No abstraction in monitoring year	N/A
2. Volume not to exceed 1,300 m ³ or 15 L/sec	No abstraction in monitoring year	N/A
3. Water meter and datalogger to be installed and maintained, data to be provided to Council	No abstraction in monitoring year	N/A
4. Maintenance of water meter and datalogger	No abstraction in monitoring year	N/A
5. Council to be notified if measuring and recording equipment breaks down	No problems during monitoring period	N/A
6. Water meter and datalogger to be accessible to Council staff	No abstraction in monitoring year	N/A
7. Format of water records	No abstraction in monitoring year	N/A
8. Payment of \$1,300 required when consent exercised	No abstraction in monitoring year	N/A
9. Adopt best practicable option to prevent or minimise effects	No abstraction in monitoring year	N/A
10. Annual report	No abstraction in monitoring year	N/A
11. Optional review provision re environmental effects	Next option for review in June 2019	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		N/A
Overall assessment of administrative performance in respect of this consent		N/A

Table 19 Summary of performance for Consent 5713-2

Purpose: To use a weir to dam the Wairau Stream for Oakura water supply purposes		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Maintenance of weir and fish pass to be in accordance with plan submitted with the application	Not applicable	N/A
2. Screening of intake structure to avoid entrapment of fish	Inspection	Yes
3. Works or structures not to obstruct native fish passage	Inspection and triennial fish survey	Yes
4. Optional review provision re environmental effects	Next option for review in June 2019	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

Table 20 Summary of performance for Consent 6114-1

Purpose: To take and use groundwater from two bores for Oakura water supply purposes		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Consent to be exercised in accordance with information submitted in support of the application and to ensure consent conditions are met	Inspection and liaison with consent holder	Yes
2. Adoption of best practicable option to prevent or minimise adverse effects on the environment	Inspection and liaison with consent holder	Yes
3. Limits on volume and rate of abstraction	Review of abstraction data provided to Council	Yes
4. Abstraction not to have adverse effects on other known groundwater and surfacewater takes	Liaison with consent holder	Yes
5. Recording of abstraction rates	Provision of data	Yes
6. Optional review provision re environmental effects	No further option for review before expiry	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

3.3.4. Okato WTP

Table 21 Summary of performance for Consent 0026-3

Purpose: To take water from the Mangatete Stream in the Kaihihi catchment for public water supply purposes		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practicable option	Inspection and liaison with consent holder	Yes
2. Exercise consent in accordance with the application documentation	Inspection and liaison with consent holder	Yes
3. Abstraction rates and daily limits	Review of abstraction data received by Council	Yes
4. Notification of exceedances	Rate not exceeded	Yes
5. Installation of staff gauge	Staff gauge installed by Council	Yes
6. Implementation of water conservation for flows less than 180 L/sec over seven days	Restrictions put in place by consent holder	Yes
7. Implementation of water conservation for flows less than 120 L/sec over seven days	Review of stage data- trigger values not met	Yes
8. Maintaining and supplying of abstraction records	Provision of data	Yes
9. Screen off intake structure	Inspection	Yes
10. Lapse condition	Not applicable – consent exercised	N/A

Purpose: To take water from the Mangatete Stream in the Kaihihi catchment for public water supply purposes		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
11. Review condition	No more review options	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

3.3.5. Urenui dam

Table 22 Summary of performance for Consent 5989-1

Purpose: To modify and maintain an existing earth retention structure (dam) on the Kakapo Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Notification of Council prior to maintenance works	No maintenance in monitoring year	N/A
2. Structure not to obstruct fish passage	Inspection and triennial fish surveys	Yes
3. Adoption of best practicable option to avoid or minimise discharge of silt or other contaminants and any adverse effects on water quality	No maintenance in monitoring year	N/A
4. Area and volume of river bed disturbance during fish pass construction and structure maintenance minimised and disturbed areas reinstated where possible	No maintenance in monitoring year	N/A
5. Maintenance of structure to ensure compliance with consent conditions	No maintenance in monitoring year	N/A
6. Removal of structure when no longer required and reinstatement of area. Notification of Council prior to removal	Not applicable	N/A
7. Optional review provision re environmental effects	No further option for review prior to expiry	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

3.3.6. Waitara industrial supply

This is a contingency supply and was not utilised in the monitoring period under review.

Table 23 Summary of performance for Consent 0126-5

Purpose: To take and use water from the Waiongana Stream to supply water for industry in Waitara		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Rate of take to not exceed 58 litres/sec	No abstraction in monitoring year	N/A
2. Notification prior to exercise of consent	No abstraction in monitoring year	N/A
3. Datalogger and water meter to be installed	To be installed before consent exercised	N/A
4. Document required to show datalogger has been installed	To be installed before consent exercised	N/A
5. Council to be advised if recording equipment breaks down	No abstraction in monitoring year	N/A
6. Water meter and datalogger to be accessible to Council staff	To be installed before consent exercised	N/A
7. Records of abstraction to be provided	No abstraction in monitoring year	N/A
8. Restrictions on abstraction due to low flow	No abstraction in monitoring year	N/A
9. Cessation of abstraction if river flow <402 L/s	No abstraction in monitoring year	N/A
10. Best practicable option to prevent environmental effects	Inspection	N/A
11. Intake screened	Consent not exercised	N/A
12. Financial contribution if consent exercised	None required as consent not exercised	N/A
13. Report required if consent exercised	Due 30 April 2018, if consent exercised	N/A
14. Lapse provision	Lapse in 2031	N/A
15. Review provision	Next option for review in June 2018	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		N/A
Overall assessment of administrative performance in respect of this consent		N/A

Table 24 Summary of performance for Consent 4816-2

Purpose: To use and maintain an existing weir, fish pass and associated intake structures on the Waiongana Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Notification of Council prior to maintenance works	No maintenance in monitoring year	N/A
2. Adoption of best practicable option to avoid or minimise adverse effects	No maintenance in monitoring year	N/A
3. Minimising of area and volume of river disturbance during maintenance and reinstatement of disturbed areas	No maintenance in monitoring year	N/A
4. Maintenance work not to be conducted between 1 May and 31 October unless waived in writing	No maintenance in monitoring year	N/A
5. Maintenance of structure[s] to ensure compliance with consent conditions	No maintenance in monitoring year	N/A
6. Structure not to restrict fish passage	Inspection and triennial fish surveys	Yes
7. Structure to be removed when no longer required and area to be reinstated	Retained for contingency supply	N/A
8. Optional review provision re environmental effects	No further option for review before expiry	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

Table 25 Summary of performance for Consent 4817-2

Purpose: To discharge water and sediment from intake pipe cleaning and draining of settling ponds into the Waiongana Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Records of cleaning and draining operations and provision of records to Council	No discharge in monitoring year	N/A
2. Notification prior to discharge	No discharge in monitoring year	N/A
3. Discharge only to occur when flow is greater than 3 times median other than for emergency works or with prior approval from Council	No discharge in monitoring year	N/A
4. Discharge not to cause certain effects in the Waiongana Stream below the established mixing zone	No discharge in monitoring year	N/A
5. Limit on increase in turbidity below mixing zone as result of discharge	No discharge in monitoring year	N/A
6. Optional review provision re environmental effects	No further option for review before expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		N/A
Overall assessment of administrative performance in respect of this consent		N/A

During the year under review, NPDC demonstrated a high level of environmental and administrative performance and compliance with their resource consents.

3.4. Recommendation from the 2013-2014 Annual Report

In the 2013-2014 Annual Report, it was recommended:

1. THAT the monitoring programme for consents associated with New Plymouth District Council's WTPs and water supply schemes in the 2014-2015 monitoring year remain unchanged from that for 2013-2014.
2. THAT the optional review of consents 4509, 4510, and 5989 in June 2015 not be exercised on the grounds that current consent conditions are adequate to deal with any adverse effects on the environment arising from the exercise of the consents.

These recommendations were implemented in full.

3.5. Alterations to monitoring programmes for 2015-2016

In designing and implementing the monitoring programmes for water abstractions/discharges in the region, the Council has taken into account the extent of information made available by previous authorities, its relevance under the RMA, the obligations of the Act in terms of monitoring abstractions/discharges and effects, and subsequently reporting to the regional community, the scope of assessments required at the time of renewal of consents, and the need to maintain a sound understanding of industrial processes within Taranaki abstracting water and discharging to the environment.

It is proposed that for 2015-2016, the programme remains unchanged from that for 2014-2015. A recommendation to this effect is included in this report.

3.6. Exercise of optional review of consents

Resource consent 2055-3 provides for an optional review of the consent in June 2016. Condition 5 of the consents allows the Council to review the consent, 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.

Based on the results of monitoring in the year under review, and in previous years as set out in earlier annual compliance monitoring reports, it is considered that there are no grounds that require a review to be pursued.

A recommendation to this effect is presented in Section 4 of this report.

4. Recommendations

1. THAT the monitoring programme for consents associated with New Plymouth District Council's WTP's and water supply schemes in the 2015-2016 monitoring year remain unchanged from that for 2014-2015.
2. THAT the optional review of consent **2055-3** in June 2016 not be exercised on the grounds that current consent conditions are adequate to deal with any adverse effects on the environment arising from the exercise of the consent.
3. THAT fish surveys of the Kakapo Stream in relation to special condition 2 of resource consent 5989 are discontinued. It is recommended that an inspection of the spillway, to be undertaken every two years, is added to the monitoring programme.

Glossary of common terms and abbreviations

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

Bund	A wall around a tank to contain its contents in the case of a leak.
Conductivity	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 20°C and expressed in mS/m.
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.
L/sec	litres per second.
IR	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
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
NES	National Environmental Standard.
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 (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.
SS	Suspended solids.
Temp	Temperature, measured in °C (degrees Celsius).
Turb	Turbidity, expressed in NTU.
UI	Unauthorised Incident.
Regional Plan.	

For further information on analytical methods, contact the Council's laboratory.

Bibliography and references

- Taranaki Regional Council 2014, New Plymouth District Council Water Supplies Monitoring Programme Annual Report 2013-2014, Technical Report 14-104
- Taranaki Regional Council 2013, New Plymouth District Council Water Supplies Monitoring Programme Annual Report 2012-2013, Technical Report 13-39
- Taranaki Regional Council 2012, New Plymouth District Council Water Supplies Monitoring Programme Annual Report 2011-2012, Technical Report 12-72
- Taranaki Regional Council 2012, New Plymouth District Council Water Supplies Monitoring Programme Annual Report 2010-2011, Technical Report 11-22
- Taranaki Regional Council 2011, New Plymouth District Council Water Supplies Monitoring Programme Annual Report 2009-2010, Technical Report 10-41.
- Taranaki Regional Council 2010, New Plymouth District Council Water Supply Plants and Structures Monitoring Programme Annual Report 2008-2009, Technical Report 09-83.
- Taranaki Regional Council 2009, New Plymouth District Council Water Supply Plants and Structures Monitoring Programme Annual Report 2007-2008, Technical Report 08-76.
- Taranaki Regional Council 2007, New Plymouth District Council Water Supply Plants and Structures Monitoring Programme Annual Report 2006-2007, Technical Report 07-24.
- Taranaki Regional Council 2006, New Plymouth District Council Water Supply Plants and Structures Monitoring Programme Annual Report 2005-2006, Technical Report 06-25.
- Taranaki Regional Council 2005, New Plymouth District Council Water Supply Plants and Structures Monitoring Programme Annual Report 2004-2005, Technical Report 05-55.
- Taranaki Regional Council 2004, New Plymouth District Council Water Supply Plants and Structures Monitoring Programme Annual Report 2003-2004, Technical Report 04-18.
- Taranaki Regional Council 2003, New Plymouth District Council Water Supply Plants and Structures Monitoring Programme Annual Report 2002-2003, Technical Report 03-80.
- Taranaki Regional Council, 2002, New Plymouth District Council Water Supply Plants and Structures Monitoring Programme Annual Report 2001-2002, Technical Report 02-17.
- Taranaki Regional Council, 2001, New Plymouth District Council Water Supply Plants and Structures Monitoring Programme Annual Report 2000-2001, Technical Report 01-79.

Taranaki Regional Council, 2001, Regional Freshwater Plan for Taranaki as adopted by the Taranaki Regional Council, September 2001.

Taranaki Regional Council, 2000, New Plymouth District Council Water Supply Plants and Structures Monitoring Programme Annual Report 1999-2000, Technical Report 00-34.

Taranaki Regional Council, 1999, New Plymouth District Council Water Supply Plants and Structures Monitoring Programme Annual Report 1998-99, Technical Report 99-54.

Appendix I

Resource consents held by New Plymouth District Council

New Plymouth Water Treatment Plant

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

Consent Granted 30 May 2008
Date:

Conditions of Consent

Consent Granted: To discharge wastewater from a water treatment plant into
an unnamed tributary of the Mangorei Stream in the
Waiwhakaiho catchment at or about (NZTM)
1696185E-5669305N

Expiry Date: 1 June 2026

Review Date(s): June 2014, June 2020

Site Location: Junction Road, New Plymouth

Legal Description: Lot 1 DP 10097 Blk X Paritutu SD

Catchment: Waiwhakaiho

Tributary: Mangorei

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

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. Notwithstanding any other condition of this consent, 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 exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 5038. In the case of any contradiction between the documentation submitted in support of application 5038 and the conditions of this consent, the conditions of this consent shall prevail.
3. The following concentrations shall not be exceeded in the discharge:

Component	Concentration
pH (range)	6.0 – 9.0
suspended solids	100 gm ⁻³
free chlorine	0.2 gm ⁻³

This condition shall apply prior to the entry of the wastewater into the receiving waters of the unnamed tributary, at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

4. After allowing for reasonable mixing, within a mixing zone extending 15 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any 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 effects on aquatic life.

Consent 0672-3

5. This consent shall lapse on the expiry of five years after the date of issue of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
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 2014 and/or June 2020, 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 30 May 2008

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: New Plymouth District Council
Private Bag 2025
NEW PLYMOUTH 4342

Consent Granted 30 May 2008
Date:

Conditions of Consent

Consent Granted: To discharge stormwater from a water treatment plant into
an unnamed tributary of the Mangorei Stream in the
Waiwhakaiho catchment at or about (NZTM)
1696185E-5669305N

Expiry Date: 1 June 2026

Review Date(s): June 2014, June 2020

Site Location: Junction Road, New Plymouth

Legal Description: Lot 1 DP 10097 Blk X Paritutu SD

Catchment: Waiwhakaiho

Tributary: Mangorei

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. Notwithstanding any other condition of this consent, 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 exercise of this consent shall be undertaken substantially in accordance with the documentation submitted in support of application 5001. In the case of any contradiction between the documentation submitted in support of application 5001 and the conditions of this consent, the conditions of this consent shall prevail.
3. The stormwater discharged shall be from a catchment area not exceeding 2 hectares.
4. The consent holder shall maintain a stormwater management plan. This plan shall document how the site is to be managed in order to minimise the contaminants that become entrained in the stormwater to the satisfaction of the Chief Executive, Taranaki Regional Council.
5. The consent holder shall maintain a contingency plan. The plan shall detail measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not licensed by this consent, and measures to avoid, remedy or mitigate the environmental effects of such a discharge, to the satisfaction of the Chief Executive, Taranaki Regional Council.
6. Any above ground hazardous substances storage areas shall be bunded with drainage to sumps, or other appropriate recovery systems, and not to the stormwater catchment.

Consent 0673-3

7. The following concentrations shall not be exceeded in the discharge:

Component	Concentration
pH (range)	6.0 – 9.0
suspended solids	100 gm ⁻³
free chlorine	0.2 gm ⁻³

This condition shall apply prior to the entry of the stormwater into the receiving waters of the unnamed tributary, at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

8. After allowing for reasonable mixing, within a mixing zone extending 15 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
- the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - any conspicuous change in the colour or visual clarity;
 - any emission of objectionable odour;
 - the rendering of fresh water unsuitable for consumption by farm animals;
 - any significant adverse effects on aquatic life.
9. This consent shall lapse on the expiry of five years after the date of issue of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
10. 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 2014 and/or June 2020, 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 30 May 2008

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Consent 2055-3



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

PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE 0-6-765 7127
FAX 0-6-765 5097

Name of
Consent Holder: New Plymouth District Council
Private Bag 2025
NEW PLYMOUTH

Consent Granted 25 June 2002
Date:

Conditions of Consent

Consent Granted: To take up to 60,480 cubic metres per day at a maximum
rate of 740 litres/ second of water from Lake Mangamahoe
in the Waiwhakaiho Catchment for municipal water supply
purposes at or about GR: P19:072-308, P19:071-306 and
P19:078-298

Expiry Date: 1 June 2021

Review Date(s): June 2006, June 2011, June 2016

Site Location: Lake Mangamahoe, Junction Road, New Plymouth

Legal Description: Pt Sec 13 DP 5433 Hua and Waiwhakaiho Hundred Blk X
Paritutu SD

Catchment: Waiwhakaiho

Tributary: Lake Mangamahoe

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

Consent 2055-3

General conditions

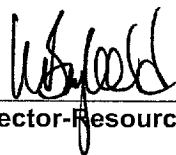
- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified 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 conducted in accordance with the information submitted in support of the application and to ensure that the conditions of the consent are met at all times.
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 avoid or minimise any adverse effects on the environment as a result of the exercise of this consent.
3. All intake structures shall be screened to avoid the entrainment of fish.
4. The consent holder shall install and operate a measuring device capable of accurately recording daily rates of abstraction and shall measure, record and make such records available to the Chief Executive, Taranaki Regional Council, upon request.
5. 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 2006 and/or June 2011 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 25 June 2002

For and on behalf of
Taranaki Regional Council



Director-Resource Management



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

PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE 0-6-765 7127
FAX 0-6-765 5097

Name of
Consent Holder: New Plymouth District Council
Private Bag 2025
NEW PLYMOUTH

Consent Granted 9 November 2000
Date:

Conditions of Consent

Consent Granted: To erect, place and maintain a pipebridge over the
Mangorei Stream in the Waiwhakaiho catchment at or
about GR: P19:055-316

Expiry Date: 1 June 2020

Review Date(s): June 2002, June 2008, June 2014

Site Location: Mangorei Road, New Plymouth

Legal Description: Lot 1 DP 9635 Pt Sec 773 Grey Dist Blk IX Paritutu SD

Catchment: Waiwhakaiho

Tributary: Mangorei

Consent 5699-1

General conditions

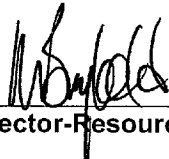
- a) That on receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) That unless it is otherwise 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) That 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 consent holder shall notify the Taranaki Regional Council at least 48 hours prior to the commencement and upon completion of the initial construction and again prior to and upon completion of any subsequent maintenance works which would involve disturbance of or deposition to the riverbed or discharges to water.
2. The structure[s] authorised by this consent shall be constructed generally in accordance with the documentation submitted in support of the application and shall be maintained to ensure the conditions of this consent are met.
3. The consent holder shall adopt the best practicable option to avoid or minimise the discharge of silt or other contaminants into water or onto the riverbed and to avoid or minimise the disturbance of the riverbed and any adverse effects on water quality.
4. The consent holder shall ensure that the area and volume of riverbed and bank disturbance shall, so far as is practicable, be minimised and any areas which are disturbed shall, so far as is practicable, be reinstated, including riparian vegetation.
5. The structure[s] authorised by this consent shall be removed and the area reinstated, if and when the structure[s] are no longer required. The consent holder shall notify the Taranaki Regional Council at least 48 hours prior to structure[s] removal and reinstatement.
6. The Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during the month of June 2002 and/or June 2008 and/or June 2014, for the purpose of ensuring that the conditions adequately deal with the environmental effects arising from the exercise of this 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 9 November 2000

For and on behalf of
Taranaki Regional Council



Director-Resource Management



PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE 0-6-765 7127
FAX 0-6-765 5097

Land Use Consent
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

Consent Granted 30 January 2001
Date:

Conditions of Consent

Consent Granted: To disturb the bed of the Mangorei Stream by trenching to
erect, place and maintain a pipeline under the Mangorei
Stream in the Waiwhakaiho catchment at or about GR:
P19:059-331

Expiry Date: 1 June 2020

Review Date(s): June 2002, June 2008, June 2014

Site Location: Junction Road, New Plymouth

Legal Description: Pt Lot 1 DP 6447 Blk X Paritutu SD

Catchment: Waiwhakaiho

Tributary: Mangorei

Consent 5700-1

General conditions

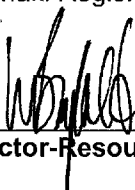
- a) That on receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) That unless it is otherwise 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) That 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 consent holder shall notify the Taranaki Regional Council at least 48 hours prior to the commencement and upon completion of the initial construction and again prior to and upon completion of any subsequent maintenance works which would involve disturbance of or deposition to the riverbed or discharges to water.
2. The structure[s] authorised by this consent shall be constructed generally in accordance with the documentation submitted in support of the application and shall be maintained to ensure the conditions of this consent are met.
3. The disturbance of parts of the riverbed covered by water and/or any works which may result in downstream discolouration of water shall only be undertaken between the period 1 November and 30 April, except where this requirement is waived in writing by the Chief Executive, Taranaki Regional Council.
4. The consent holder shall adopt the best practicable option to avoid or minimise the discharge of silt or other contaminants into water or onto the riverbed and to avoid or minimise the disturbance of the riverbed and any adverse effects on water quality.
5. The consent holder shall ensure that the area and volume of riverbed and bank disturbance shall, so far as is practicable, be minimised and any areas which are disturbed shall, so far as is practicable, be reinstated, including riparian vegetation.
6. The structure[s] authorised by this consent shall be removed and the area reinstated, if and when the structure[s] are no longer required. The consent holder shall notify the Taranaki Regional Council at least 48 hours prior to structure[s] removal and reinstatement.
7. The Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during the month of June 2002 and/or June 2008 and/or June 2014, for the purpose of ensuring that the conditions adequately deal with the environmental effects arising from the exercise of this 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 30 January 2001

For and on behalf of
Taranaki Regional Council



Director-Resource Management



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

CHIEF EXECUTIVE
PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE: 06-765 7127
FAX: 06-765 5097
www.trc.govt.nz

Please quote our file number
on all correspondence

Name of
Consent Holder: New Plymouth District Council
Private Bag 2025
NEW PLYMOUTH

Consent Granted
Date: 1 August 2005

Conditions of Consent

Consent Granted: To erect, place and maintain a weir in the Mangorei Stream
in the Waiwhakaiho catchment at or about GR: P19:044-
268

Expiry Date: 1 June 2020

Review Date(s): June 2008, June 2014

Site Location: Scout Road, Korito, New Plymouth

Legal Description: Sec 96 Hua & Waiwakaiho Hun Blk II Egmont SD

Catchment: Waiwhakaiho

Tributary: Mangorei

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

Consent 6643-1

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

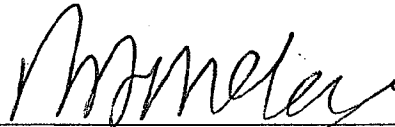
1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 3838. In the case of any contradiction between the documentation submitted in support of application 3838 and the conditions of this consent, the conditions of this consent shall prevail.
3. This consent may be reviewed at any time should monitoring show that brown trout densities upstream of the structure are increasing or if there are significant adverse effects on conservation values upstream of the structure or if the structure is found to be no longer necessary for the conservation of native fish biodiversity.
4. The consent holder shall undertake annual inspections of the structure authorised by this resource consent and provide a report to the satisfaction of the Chief Executive, Taranaki Regional Council.
5. The consent holder shall notify the Chief Executive, Taranaki Regional Council, at least 48 hours prior to any maintenance works of the structure licensed by this consent which would involve disturbance of, or deposition to, the streambed or discharges to water.
6. The consent holder, during any maintenance works, shall adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to avoid or minimise the discharge of silt or other contaminants into water or onto the streambed and to avoid or minimise the disturbance of the streambed and any adverse effects on water quality.
7. No maintenance work shall be conducted during the period 1 May to 31 October unless waived in writing by the Chief Executive, Taranaki Regional Council.

Consent 6643-1

8. This consent shall lapse on the expiry of five years after the date of issue of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
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 of review during the month of June 2008 and/or June 2014, 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 1 August 2005

For and on behalf of
Taranaki Regional Council



Director-Resource Management

Inglewood Water Treatment Plant

TRK973934



WATER PERMIT

**Pursuant to the RESOURCE MANAGEMENT ACT 1991
a resource consent is hereby granted by the
Taranaki Regional Council**

PRIVATE BAG 713
47 CLOTON ROAD
STRATFORD
NEW ZEALAND
PHONE 0-6-765 7127
FAX 0-6-765 5097

Name of
Consent Holder: **NEW PLYMOUTH DISTRICT COUNCIL
PRIVATE BAG 2025 NEW PLYMOUTH**

Renewal
Granted Date: **19 September 1997**

CONDITIONS OF CONSENT

Consent Granted: **TO TAKE:**

- i) **UP TO 400 CUBIC METRES/DAY [5 LITRES/SECOND]
OF WATER THROUGHOUT THE YEAR FOR FARM
SUPPLY PURPOSES; AND**
- ii) **UP TO 5000 CUBIC METRES/DAY [70 LITRES/SECOND]
OF WATER AS A CONTINGENCY SUPPLY FOR
INGLEWOOD MUNICIPAL WATER SUPPLY PURPOSES
FROM AN INTAKE WEIR IN THE NGATORO STREAM A
TRIBUTARY OF THE MANGANUI RIVER IN THE WAITARA
CATCHMENT AT OR ABOUT GR: P20:088-197**

Expiry Date: **1 June 2015**

Review Date[s]: **June 2003 and June 2009**

Site Location: **DUDLEY ROAD INGLEWOOD**

Legal Description: **LOT 1 DP8522 BLK XI EGMONT SD**

Catchment: **WAITARA 395.000**

Tributary: **MANGANUI 395.040
NGATORO 395.045**

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

TRK973934

General conditions

- a) That on receipt of a requirement from the General Manager, Taranaki Regional Council (hereinafter the General Manager), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) That 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) That 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. THAT the consent holder shall manage the take so that its combined abstraction from the Ngatoro Stream under this resource consent and consent TRK944510, the abstraction via an infiltration gallery, does not exceed 75 litres/second at any time.
- 2. THAT the consent holder shall satisfactorily install and operate a measuring device capable of recording daily rates of abstraction and shall make such records available to the General Manager, Taranaki Regional Council, upon request.
- 3. THAT the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during June 2003 and/or June 2009, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects of the abstraction on the environment, which were not foreseen at the time of granting the consent, and which it was not appropriate to deal with at that time.

Signed at Stratford on 19 September 1997

For and on behalf of
TARANAKI REGIONAL COUNCIL



DIRECTOR - RESOURCE MANAGEMENT

Land Use Consent
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

Consent Granted
Date: 12 June 2009

Conditions of Consent

Consent Granted: To maintain a water supply intake infiltration gallery in and adjacent to the Ngatoro Stream a tributary of the Manganui River in the Waitara catchment and to maintain a pipeline from the gallery to the water treatment station for Inglewood urban water supply purposes at or about (NZTM) 1701081E-5660275N

Expiry Date: 1 June 2027

Review Date(s): June 2015, June 2021

Site Location: Dudley Road, Inglewood

Legal Description: Pt Sec 17 Blk VIII Egmont SD

Catchment: Waitara

Tributary: Manganui
Ngatoro

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

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. Any disturbance of parts of the riverbed covered by water and/or any works which may result in downstream discolouration of water shall be undertaken only between 1 November and 30 April, except where this requirement is waived in writing by the Chief Executive, Taranaki Regional Council.
2. The consent holder shall notify the Chief Executive, Taranaki Regional Council, in writing at least 48 hours prior to the commencement and upon completion of maintenance works which would involve disturbance of or deposition to the riverbed or discharges to water. Notification shall include the consent number and a brief description of the activity consented and be emailed to worknotification@trc.govt.nz.
3. The consent holder shall ensure that the area and volume of riverbed disturbance shall, so far as is practicable, be minimised and any areas which are disturbed shall, so far as is practicable, be reinstated.
4. The consent holder shall take all reasonable steps to:
 - a. minimise the amount of sediment discharged to the stream;
 - b. minimise the amount of sediment that becomes suspended in the stream; and
 - c. mitigate the effects of any sediment in the stream.

Undertaking work in accordance with *Guidelines for Earthworks in the Taranaki region*, by the Taranaki Regional Council, will achieve compliance with this condition.

5. Except with the written agreement of the Chief Executive, Taranaki Regional Council, the structure[s] authorised by this consent shall be removed and the area reinstated, if and when the structure is no longer required. A further resource consent may be required to authorise the removal of the structure, and the consent holder is advised to seek advice from the Council on this matter.
6. The exercise of this consent shall not restrict the passage of fish.

Consent 4509-2

7. This consent shall lapse on 30 June 2014, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
8. 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 2015 and/or June 2021, 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.

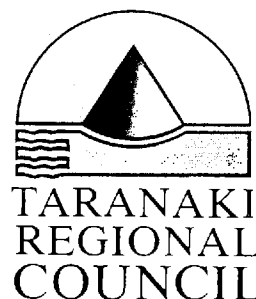
Signed at Stratford on 12 June 2009

For and on behalf of
Taranaki Regional Council

Director-Resource Management

TRK944510

COPY



WATER PERMIT

**Pursuant to the RESOURCE MANAGEMENT ACT 1991
a resource consent is hereby granted by the
Taranaki Regional Council**

PRIVATE BAG 713
47 CLOTON ROAD
STRATFORD
NEW ZEALAND
PHONE 0-6-765 7127
FAX 0-6-765 5097

Name of
Consent Holder: NEW PLYMOUTH DISTRICT COUNCIL
PRIVATE BAG NEW PLYMOUTH

Consent
Granted Date: 15 March 1994

CONDITIONS OF CONSENT

Consent Granted: TO TAKE UP TO 4850 CUBIC METRES/DAY
[70 LITRES/SECOND] OF WATER FROM THE NGATORO
STREAM A TRIBUTARY OF THE MANGANUI STREAM IN THE
WAITARA CATCHMENT, FOR INGLEWOOD URBAN WATER
SUPPLY PURPOSES AT OR ABOUT GR: Q19:112-220

Expiry Date: 1 June 2009

Review Date[s]: June 1997 and June 2003

Site Location: 211 DUDLEY ROAD INGLEWOOD

Legal Description: PT 17 SO753 DP2282 BLK VIII EGMONT SD

Catchment: WAITARA 395.000

Tributary: MANGANUI 395.040
NGATORO 395.045

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

GENERAL CONDITIONS

- (a) The consent holder shall provide on request by the General Manager, Taranaki Regional Council, plans, specifications and maintenance programmes of works associated with the exercise of the consent, showing that the conditions of the consent are able to be met.
- (b) The standards, techniques and frequency of monitoring of the consent shall be to the specific approval of the General Manager, Taranaki Regional Council.
- (c) The consent holder shall pay all charges required by the General Manager, Taranaki Regional Council, to enable recovery of the actual and reasonable costs incurred in administration, monitoring and supervision of the consent.

SPECIAL CONDITIONS

- 1) THAT the consent holder must monitor total abstraction volume and maximum instantaneous rates of abstraction on a daily basis and make these records available to the General Manager, Taranaki Regional Council, upon request.
- 2) THAT this consent cannot be exercised in conjunction with any abstraction of water from the Ngatoro Stream via an existing intake structure at or about GR P20:088-197 for the Inglewood urban water supply.
- 3) THAT the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during June 1997 and/or June 2003, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects of the abstraction on the Ngatoro Stream.

Signed at Stratford on 15 March 1994

For and on behalf of
TARANAKI REGIONAL COUNCIL


GENERAL MANAGER

TRK975188



PRIVATE BAG 713
47 CLOTON ROAD
STRATFORD
NEW ZEALAND
PHONE 0-6-765 7127
FAX 0-6-765 5097

LAND USE CONSENT

**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**

Consent
Granted Date: **19 September 1997**

CONDITIONS OF CONSENT

Consent Granted: **TO LICENSE AND MAINTAIN AN EXISTING WEIR STRUCTURE
IN THE NGATORO STREAM A TRIBUTARY OF THE MANGANUI
RIVER IN THE WAITARA CATCHMENT AT OR ABOUT GR:
P20:088-197**

Expiry Date: **1 June 2015**

Review Date[s]: **June 2003 and June 2009**

Site Location: **NGATORO STREAM UPPER DUDLEY ROAD, INGLEWOOD**

Legal Description: **LOT 1 DP8522 BLK XI EGMONT SD**

Catchment: **WAITARA 395.000**

Tributary: **MANGANUI 395.040
NGATORO 395.045**

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

TRK975188

General conditions


- a) That on receipt of a requirement from the General Manager, Taranaki Regional Council (hereinafter the General Manager), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) That 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) That 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. THAT the consent holder shall maintain the weir to enable the passage of native fish, juvenile trout and adult trout.
- 2. THAT the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during June 2003 and/or June 2009, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects of the structure on the environment, which were not foreseen at the time of granting the consent and which it was not appropriate to deal with at that time.

Signed at Stratford on 19 September 1997

For and on behalf of
TARANAKI REGIONAL COUNCIL



DIRECTOR - RESOURCE MANAGEMENT

Consent 5869-1



PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE 0-6-765 7127
FAX 0-6-765 5097

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



Change To
Conditions Date: 23 October 2001 [Granted: 25 September 2001]

Conditions of Consent

Consent Granted: To discharge clarifier bleed and filter backwash supernatant overflow from the Inglewood water treatment plant into the Ngatoro Stream a tributary of the Manganui River in the Waitara catchment at or about GR: Q19:121-227

Expiry Date: 1 June 2015

Review Date(s): June 2003, June 2009

Site Location: Inglewood water treatment plant, Dudley Road, Inglewood

Legal Description: Lot 1 DP 17502 Blk VIII Egmont SD

Catchment: Waitara

Tributary: Manganui
Ngatoro

Consent 5869-1

General conditions

- a) That on receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) That 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) That 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 discharge rate shall not exceed 48 litres per second.
2. The consent holder shall properly and efficiently maintain and operate the settlement facility.
3. After allowing for a mixing zone of 25 metres downstream of the discharge, the discharge shall not give rise to any of the following effects in the Ngatoro stream:
 - i) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - ii) any conspicuous change in the colour or visual clarity;
 - iii) any emission of objectionable odour;
 - iv) the rendering of fresh water unsuitable for consumption by farm animals; and
 - v) any significant adverse effects on aquatic life.
4. The discharge quality shall not exceed the following limits at all times:

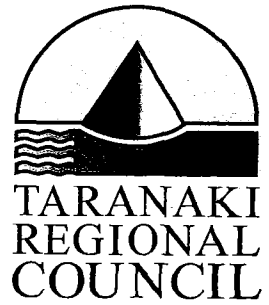
suspended solids	20 gm ⁻³
free available chlorine	0.1 gm ⁻³
pH	6.5 - 8.5
5. The Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during the month of June 2003 and/or June 2009, for the purpose of ensuring that the conditions adequately deal with the environmental effects arising from the exercise of this 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 23 October 2001

For and on behalf of
Taranaki Regional Council


Chief Executive

Oakura Water Treatment Plant



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

CHIEF EXECUTIVE
PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE: 06-765 7127
FAX: 06-765 5097
www.trc.govt.nz

Please quote our file number
on all correspondence

**Name of
Consent Holder:** New Plymouth District Council
Private Bag 2025
NEW PLYMOUTH 4600

**Consent Granted
Date:** 11 December 2006

Conditions of Consent

Consent Granted: To discharge filter backwash from the Oakura Water Treatment Plant onto and into land in the vicinity of the Wairau Stream at or about GR: P19:930-301

Expiry Date: 1 June 2025

Review Date(s): June 2013, June 2019

Site Location: Main South Road, Oakura

Legal Description: Sec 13 Pt Sec 14 30 Oakura Dist Blk II Wairau SD

Catchment: Wairau

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 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 exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 4477. In the case of any contradiction between the documentation submitted in support of application 4477 and the conditions of this consent, the conditions of this consent shall prevail.
- 3. The discharge quality shall not exceed the following limits at all times:

Component	Concentration
Suspended solids	100 g/m ³
Free available chlorine	0.2 g/ m ³
pH	6-9

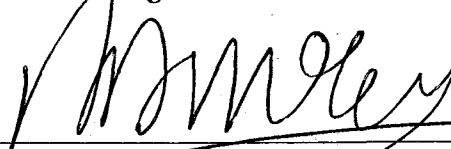
- 4. The discharge shall not give rise to any of the following effects in the Wairau Stream:
 - a) the production of any conspicuous oil or grease films, scums or foams or floatable or suspended materials;
 - b) Any conspicuous change in the colour or visual clarity;
 - c) Any emission of objectionable odour;
 - d) The rendering of fresh water unsuitable for consumption by farm animals;
 - e) Any significant adverse effects on aquatic life, habitats or ecology.

Consent 1277-3

5. 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 2013 and/or June 2019, 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 11 December 2006

For and on behalf of
Taranaki Regional Council



Director Resource Management

Consent 1278-3



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

PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEWZEALAND
PHONE 0-6-765 7127
FAX 0-6-765 5097

Name of
Consent Holder: New Plymouth District Council
Private Bag 2025
NEW PLYMOUTH

Consent Granted 13 June 2001
Date:

Conditions of Consent

Consent Granted: To take and use water from the Wairau Stream for Oakura
water supply purposes at or about GR: P19:933-297

Expiry Date: 1 June 2013

Review Date(s): June 2004, June 2007, June 2008, June 2009

Site Location: Upper Wairau Road, Oakura

Legal Description: Pt Subn 2 of Sec 170 Oakura Dist Blk III Cape SD

Catchment: Timaru

Tributary: Wairau

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

Consent 1278-3

General conditions

- [REDACTED]
- a) That on receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) That 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) That 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

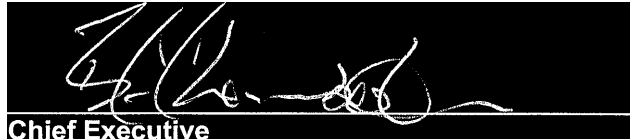
1. The volume of water abstracted shall not exceed 2,300 cubic metres per day and the rate shall not exceed 27 litres/second.
2. The consent holder shall monitor and maintain records of the abstraction including date, rate and volume abstracted, and shall make these records available to the Chief Executive, Taranaki Regional Council, upon request.
3. That by agreement of the consent holder, the consent holder shall mitigate the effects of the abstraction by donating annually to the Taranaki Tree Trust up to \$1,200 [goods and services tax exclusive] for the purpose of providing riparian management in the Wairau Stream catchment below the Egmont National boundary. The amount shall be adjusted annually according to the consumer price index or similar index, to account for the effects of inflation. The total financial contribution under this condition and under consent 5777 condition 4 shall not exceed the aforementioned amount.
4. The abstraction shall be managed to ensure that a residual flow of not less than 9 litres/second is maintained at all times in the Wairau Stream below the abstraction weir licensed by consent 5713.
5. The consent holder may apply to the Taranaki Regional Council for a change or cancellation of the conditions of their consent, in accordance with section 127(l)(a) of the Resource Management Act 1991, to take account of operational requirements or the results of the monitoring.
6. The Taranaki Regional Council may review under section 128 of the Resource Management Act 1991:
 - (a) condition 1 to assess water use requirements in June 2007, June 2008 and/or June 2009; and

Consent 1278-3

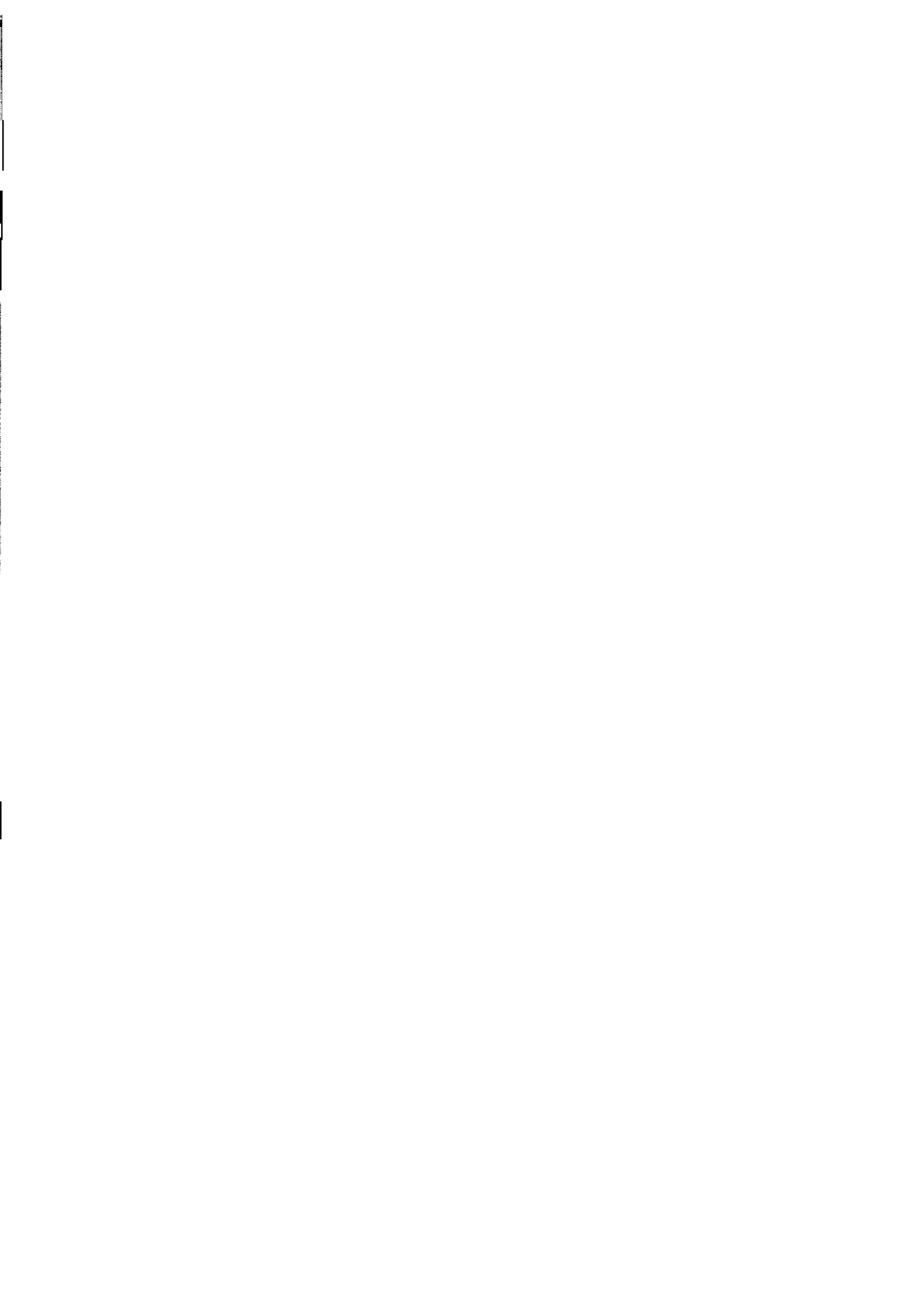
- (b) any or all of the conditions of this consent by giving notice of review during the month of June 2004 and/or June 2007, for the purpose of ensuring that the conditions are adequate to deal with any significant adverse effects on the environment arising from the exercise of this consent, which either were 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 13 June 2001

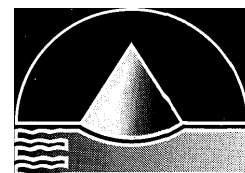
For and on behalf of
Taranaki Regional Council



Chief Executive



Consent 5713-I



**TARANAKI
REGIONAL
COUNCIL**

PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEWZEALAND
PHONE 0-6-765 7127
FAX 0-6-765 5097

Land Use Consent
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

Consent Granted
Date: 13 June 2001

Conditions of Consent

Consent Granted: To erect, place and maintain a weir in the Wairau Stream
for Oakura water supply purposes at or about GR:
PI 9:933-297

Expiry Date: 1 June 2013

Review Date(s): June 2004, June 2007, June 2008, June 2009

Site Location: Upper Wairau Road, Oakura

Legal Description: Pt Subn 2 of Sec 170 Oakura Dist Blk III Cape SD

Catchment: Timaru

Tributary: Wairau

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

Consent 5713-I

General conditions

- a) That on receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) That 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) That 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 consent holder shall construct the weir, including the fish pass, in general accordance with Plan No W-DFC-1001 submitted with application 1174.
2. The consent holder shall notify the Taranaki Regional Council, at least 48 hours prior to the construction of the fish pass and any maintenance works which would involve disturbance of, or deposition to the streambed or discharges to water.
3. The structure authorised by this consent shall be maintained to ensure the conditions of this consent are met.
4. The consent holder shall ensure that the intake is appropriately screened to avoid the entrapment of native fish.
5. That any works or structures which are the subject of this consent shall not obstruct native fish passage.
6. The consent holder, during fish pass construction and weir maintenance, shall adopt the best practicable option to avoid or minimise the discharge of silt or other contaminants into water or onto the streambed and to avoid or minimise any adverse effects on water quality.
7. The structure authorised by this consent shall be removed and the area reinstated, if and when the structure is no longer required. The consent holder shall notify the Taranaki Regional Council at least 48 hours prior to the removal of the structure and reinstatement of the area.
8. That the fishpass shall be installed only between 1 November and 30 April.

Consent 5713-I

9. The Taranaki Regional Council may review, under section 128 of the Resource Management Act 1991, any or all of the conditions of this consent by giving notice of review during the month of June 2004, June 2007, June 2008 and/or June 2009, for the purpose of ensuring that the conditions are adequate to deal with any significant adverse effects on the environment arising from the exercise of this consent, which either were not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

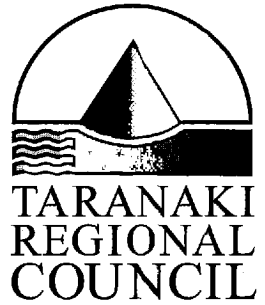
Signed at Stratford on 13 June 2001

For and on behalf of
Taranaki Regional Council

A black rectangular box containing a white handwritten signature in cursive script.

Chief Executive





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

CHIEF EXECUTIVE
PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE 06-765 7127
FAX 06-765 5097

Please quote our file number
on all correspondence

Name of
Consent Holder: New Plymouth District Council
Private Bag 2025
NEW PLYMOUTH

Consent Granted
Date: 19 March 2003

Conditions of Consent

Consent Granted: To take and use groundwater from two bores for Oakura
water supply purposes at or about GR: P19:932-300 and
GR: P19:934-301

Expiry Date: 1 June 2020

Review Date(s): June 2008, June 2014

Site Location: Wairau Road, Oakura

Legal Description: Lot 1 DP 312138 & Lot 1 DP 19978 Blk II Wairau SD

Catchment: Oakura

Tributary: Wakamure

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

www.trc.govt.nz

Consent 6114-1

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), 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 undertaken in general accordance with the information submitted in support of the application and to ensure the conditions of this consent are met at all times.
2. The consent holder shall at all times adopt the best practicable option, as defined by section 2 of the Resource Management Act 1991, to prevent or minimise any actual or likely adverse effect on the environment associated with the abstraction of groundwater, including but not limited to the efficient and conservative use of water.
3. The volume of water abstracted shall not exceed 3715 cubic metres/day at an individual bore rate of 35 litres/second, or a combined rate of 43 litres/second between the two bores.
4. The abstraction shall be managed such that there are no adverse effects on other known groundwater and surface water takes from the exercise of this consent.
5. The consent holder shall operate a measuring device capable of recording daily rates of abstraction from the bore[s] and monitor water levels in nearby observation bores, and shall make these records available to the Chief Executive upon request.
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 2008 and/or June 2014, 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 19 March 2003

For and on behalf of
Taranaki Regional Council



Chief Executive

Okato Water Treatment Plant

Water 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 27 September 2011
[Change]:

Commencement 27 September 2011 [Granted: 14 June 2007]
Date [Change]:

Conditions of Consent

Consent Granted: To take water from the Mangatete Stream in the Kaihihi
catchment for public water supply purposes at or about
(NZTM) 1678253E-5658216N

Expiry Date: 1 June 2019

Review Date(s): June 2013

Site Location: Okato Intake, Saunders Road, Okato

Legal Description: Lot 5 DP 431790 [Site of take]

Catchment: Kaihihi

Tributary: Mangatete

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

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 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 effects on the environment from the exercise of this consent, including, but not limited to, the efficient and conservative use of water.
2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of applications 4464 and 6829. In the case of any contradiction between the documentation submitted in support of applications 4464 and 6829, and the conditions of this consent, the conditions of this consent shall prevail.
3. The volume of water abstracted shall not exceed 1000 cubic metres/day, at a rate not exceeding 13.8 litres/second, except when a fault or incident occurs at the plant that threatens the security of the water supply for Okato, in this case the water abstracted shall not exceed 1200 cubic metres/day, for the duration of the event.
4. The consent holder is to notify the Chief Executive, Taranaki Regional Council, when a fault or incident occurs, that requires taking more than 1000 m³/day, and of the nature of the fault or incident.
5. A staff gauge shall be installed immediately downstream of the water take and a low flow rating curve established before the exercise of this consent. The staff gauge will be installed by the Taranaki Regional Council and all costs will be recovered through the compliance monitoring programme in place for the activity.
6. When the flow in the Mangatete Stream, measured beneath the Saunders Road bridge, is less than 180 litres/second for a period of seven or more consecutive days, water conservation practices are to be put in place by the consent holder (eg. garden water only to be used every odd day).

Consent 0026-3

7. When the flow in the Mangatete Stream, measured beneath the Saunders Road bridge, is less than 120 litres/second for a period of seven or more consecutive days, the taking of water shall be restricted to the minimum amount necessary to maintain the health of people and animals (i.e. garden water and other non-essential uses are prohibited).
8. The consent holder shall maintain a record of abstraction including date, and daily volume abstracted (to an accuracy of + 5%), and shall make these records available to the Chief Executive, Taranaki Regional Council, upon request.
9. The consent holder shall ensure that the emergency intake structure is appropriately screened to avoid the entrapment of freshwater fish.
10. This consent shall lapse on the expiry of five years after the date of issue of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
11. 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 2013, 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 27 September 2011

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Waitara Industrial Water Supply

Water 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: 21 June 2013

Commencement Date: 21 June 2013

Conditions of Consent

Consent Granted: To take and use water from the Waiongana Stream to supply water for industry in Waitara

Expiry Date: 1 June 2031

Review Date(s): June 2018, June 2024, June 2030

Site Location: Mountain Road, Lepperton

Legal Description: Adjacent to Pt Sec 190 (Site of take)

Grid Reference (NZTM) 1704217E-5672857N

Catchment: Waiongana

*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 to section 36 of the Resource Management Act 1991.

Special conditions

1. The rate of taking shall not exceed 58 litres per second.
2. The consent holder shall notify the Chief Executive, Taranaki Regional Council of the intention to exercise this consent at least 60 days before the consent is first exercised. Notification shall include the consent number and a brief description of the activity consented and be emailed to worknotification@trc.govt.nz.
3. Before exercising this consent the consent holder shall install, and thereafter maintain a water meter and a datalogger at the site of taking. The water meter and datalogger shall be tamper-proof and shall measure and record the rate and volume of water taken to an accuracy of $\pm 5\%$. Records of the date, the time and the rate and volume of water taken at intervals not exceeding 15 minutes, shall be made available to the Chief Executive, Taranaki Regional Council at all reasonable times/ on an annual basis.

Note: Water meters and dataloggers must be installed, and regularly maintained, in accordance with manufacturer's specifications in order to ensure that they meet the required accuracy. Even with proper maintenance water meters and dataloggers have a limited lifespan.

4. The consent holder shall provide the Chief Executive, Taranaki Regional Council with a document from a suitably qualified person certifying that water measuring and recording equipment required by the conditions of this consent ('the equipment'):
 - (a) has been installed and/or maintained in accordance with the manufacturer's specifications; and/or
 - (b) has been tested and shown to be operating to an accuracy of $\pm 5\%$.

The documentation shall be provided:

- (i) within 30 days of the installation of a water meter or datalogger;
 - (ii) at other times when reasonable notice is given and the Chief Executive, Taranaki Regional Council has reasonable evidence that the equipment may not be functioning as required by this consent; and
 - (iii) no less frequently than once every five years.
5. If any measuring or recording equipment breaks down, or for any reason is not operational, the consent holder shall advise the Chief Executive, Taranaki Regional Council immediately. Any repairs or maintenance to this equipment must be undertaken by a suitably qualified person.

Consent 0126-5

6. The water meter and datalogger shall be accessible to Taranaki Regional Council officer's at all reasonable times for inspection and/or data retrieval.
7. The records of water taken shall:
 - (a) be in a format that, in the opinion of the Chief Executive, Taranaki Regional Council, is suitable for auditing; and
 - (b) specifically record the water taken as 'zero' when no water is taken.
8. When the flow in the Waiongana Stream is less than 471 litres per second as measured at State Highway 3A, the taking of water shall be restricted to the minimum amount necessary to maintain the health and welfare of people and animals (i.e. garden water and other non-essential uses are prohibited).
9. The taking of water authorised by this consent shall be managed to ensure that the flow in the Waiongana Stream as measured at State Highway 3A is not less than 402 litres per second. No taking shall occur when the flow is less than 402 litres per second.
10. At all times the consent holder shall adopt the best practicable option to prevent or minimise any actual or likely adverse effect on the environment associated with the abstraction of water from the Waiongana Stream, including, but not limited to, the efficient and conservative use of water.
11. The consent holder shall ensure that the intake is screened to avoid fish (in all stages of their life-cycle) entering the intake or being trapped against the screen.
12. During any 12-month period ending on 30 June in which this consent is exercised, the consent holder shall make a payment of \$2000 (plus GST) to the Taranaki Regional Council as a financial contribution. The financial contribution shall be used to remedy or mitigate adverse environmental effects of the taking in the Waiongana Stream catchment. The financial contribution shall be adjusted in accordance with the Consumer Price Index (or similar) so that the real value of the payment remains the same.
13. The consent holder shall provide reports to the Chief Executive, Taranaki Regional Council to demonstrate that the amount authorised for taking, or some lesser amount, is reasonably needed. These reports shall be provided no later than 30 April 2018, 30 April 2024, and 30 April 2030.
14. This consent shall lapse on in 1 June 2031, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

Consent 0126-5

15. 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 2018 and/or June 2024 and/or June 2030, for the purposes of:
- (a) reducing the amount of water authorised to be taken following a review of requirements provided in accordance with condition 13;
 - (b) 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
 - (c) to require any data collected in accordance with the conditions of this consent to be transmitted directly to the Council's computer system, in a format suitable for providing a 'real time' record over the internet.

Signed at Stratford on 21 June 2013

For and on behalf of
Taranaki Regional Council

Director-Resource Management



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

CHIEF EXECUTIVE
PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE 06-765 7127
FAX 06-765 5097

Please quote our file number
on all correspondence

Name of
Consent Holder: New Plymouth District Council
Private Bag 2025
NEW PLYMOUTH

Consent Granted
Date: 16 June 2003

Conditions of Consent

Consent Granted: To use and maintain an existing weir, fish pass and associated intake structures on the Waiongana Stream for Waitara Industrial water supply purposes at or about GR: Q19:143-344

Expiry Date: 1 June 2020

Review Date(s): June 2008, June 2014

Site Location: Mountain Road, Lepperton

Legal Description: Pt Secs 190 & 191 Blk XI Paritutu SD

Catchment: Waiongana

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

www.trc.govt.nz

Consent 4816-2

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), 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 consent holder shall notify the Chief Executive, Taranaki Regional Council, at least 48 hours prior to any maintenance works of the structure[s] or fish pass licensed by this consent which would involve disturbance of, or deposition to, the streambed or discharges to water.
2. The consent holder, during any maintenance works, shall adopt the best practicable option to avoid or minimise the discharge of silt or other contaminants into water or onto the streambed and to avoid or minimise the disturbance of the streambed and any adverse effects on water quality.
3. The consent holder, during any maintenance, shall ensure that the area and volume of river bed disturbance shall, so far as practicable, be minimised and any areas which are disturbed shall, so far as practicable, be reinstated.
4. No maintenance work shall be conducted during the period 1 May to 31 October unless waived in writing by the Chief Executive, Taranaki Regional Council
5. The structure[s] authorised by this consent shall be maintained to ensure the conditions of this consent are met.
6. The structure[s] authorised by this consent shall be constructed and maintained so as not to restrict the passage of native fish and trout, to the satisfaction of the Chief Executive, Taranaki Regional Council.
7. The structure[s] authorised by this consent shall be removed and the area reinstated, if and when the structure is no longer required. The consent holder shall notify the Taranaki Regional Council at least 48 hours prior to the removal of the structures and reinstatement of the area.

Consent 4816-2

8. 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 2008 and/or June 2014, 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 16 June 2003

For and on behalf of
Taranaki Regional Council



Chief Executive



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

CHIEF EXECUTIVE
PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE 06-765 7127
FAX 06-765 5097

Please quote our file number
on all correspondence

Name of
Consent Holder: New Plymouth District Council
Private Bag 2025
NEW PLYMOUTH

Consent Granted
Date: 15 July 2003

Conditions of Consent

Consent Granted: To discharge up to 250 litres/second of water and sediment
from intake pipe cleaning and draining of settling ponds
into the Waiongana Stream at or about GR: Q19:142-346

Expiry Date: 1 June 2020

Review Date(s): June 2008, June 2014

Site Location: Mountain Road [State Highway 3A], Lepperton

Legal Description: Pt Secs 190 & 191 Blk XI Paritutu SD

Catchment: Waiongana

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

Consent 4817-2

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), 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 consent holder shall keep a record of all cleaning and draining operations, including date, time, and duration of discharge, with such records to be available to the Chief Executive, Taranaki Regional Council, upon request.
2. The consent holder shall notify the Taranaki Regional Council at least 24 hours prior to discharging water and sediment from intake pipe cleaning and/or draining of settling ponds to the Waiongana Stream where practicable.
3. The consent holder shall discharge water and sediment where possible during high flow events when the flow is greater than 3 times the median flow i.e. more than 4.41 cubic metres per second as measured at the Taranaki Regional Council's hydrological monitoring station at State Highway 3A. Discharges under other flow conditions, other than draining of settling ponds for emergency maintenance work, will only be permitted with the prior written approval of the Chief Executive, Taranaki Regional Council.
4. The discharge shall not give rise, beyond a 25-metre mixing zone, to any or all of the following effects in the Waiongana Stream:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in 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 effects on aquatic life.
5. The discharge shall not give rise, beyond a 25-metre mixing zone, to an increase in turbidity of greater than 25% in terms of NTU [nephelometric turbidity units] in the Waiongana Stream.

Consent 4817-2

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 2008 and/or June 2014, 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 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 15 July 2003

For and on behalf of
Taranaki Regional Council



Director-Resource Management



Urenui dam



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

PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE 0-6-765 7127
FAX 0-6-765 5097

Name of
Consent Holder: New Plymouth District Council
Private Bag 2025
NEW PLYMOUTH

Consent Granted
Date: 9 April 2002

Conditions of Consent

Consent Granted: To modify and maintain an existing earth retention
structure (dam) on the Kakapo Stream at or about GR:
Q19:303-429

Expiry Date: 1 June 2021

Review Date(s): June 2009, June 2015

Site Location: Kaipikari Road, Urenui

Legal Description: Lots 1 & 2 DP 12063 Urenui Dist

Catchment: Onaero

Tributary: Kakapo

Consent 5989-1

General conditions

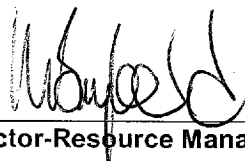
- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified 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 consent holder shall notify the Chief Executive, Taranaki Regional Council, at least 48 hours prior to any maintenance works of the structure[s] or fish pass licensed by this consent which would involve disturbance of, or deposition to, the streambed or discharges to water.
2. Any works or structure[s] which are the subject of this consent shall not obstruct fish passage after 1 December 2003.
3. The consent holder, during fish pass construction and any structure maintenance, shall adopt the best practicable option to avoid or minimise the discharge of silt or other contaminants into water or onto the streambed and to avoid or minimise the disturbance of the streambed and any adverse effects on water quality.
4. The consent holder, during fish pass construction and any structure maintenance shall ensure that the area and volume of river bed disturbance shall, so far as is practicable, be minimised and any areas which are disturbed shall, so far as is practicable, be reinstated.
5. The structure[s] authorised by this consent shall be maintained to ensure the conditions of this consent are met.
6. The structure[s] authorised by this consent shall be removed and the area reinstated, if and when the structure is no longer required. The consent holder shall notify the Taranaki Regional Council at least 48 hours prior to the removal of the structures and reinstatement of the area.
7. 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 2009 and/or June 2015, 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 9 April 2002

For and on behalf of
Taranaki Regional Council



Director-Resource Management

Appendix II
Fish survey report

Memorandum

To Scott Cowperthwaite, Job Manager
From Bart Jansma, Scientific Officer
Doc No. 1552708
Report No. BJ267
Date 10 August 2015

Fish survey in Kakapo Stream conducted in relation to the fish pass on the decommissioned Urenui water supply dam, April 2015

Introduction

NPDC hold one resource consent in relation to the decommissioned Urenui water supply weir, in the Kakapo Stream:

5989 To modify and maintain an existing earth retention structure (dam) on the Kakapo Stream.

Special condition 2 under resource consent 5989 requires that the dam does not obstruct fish passage after 1 December 2003. The purpose of the monitoring reported herein is to assess compliance with special condition 2.

The decommissioned dam is no longer useful as a water supply due to excessive sedimentation of the reservoir pond upstream of the dam. NPDC therefore abandoned the supply, with water from the New Plymouth municipal supply now servicing the Urenui community. NPDC decided to hand over the area to the local landowners (Alan and Janet Halcombe, who in turn placed the area in a QEII covenant), however NPDC were first required to gain a land use consent for the dam, and provide fish passage past the structure. Plans for the fish pass were submitted and approved after amendments, with the pass completed in May 2002. The consent is currently still held by NPDC.

Due to its proximity to the coast (4.6km) and its low altitude (60m), the stream is expected to support a diverse range of fish, despite its small size (average width 1.5m). Anecdotal evidence from the landowner noted that some galaxiid species (most likely banded kokopu or inanga) have been seen in the stream. It was therefore important to design and provide a pass suitable for a wide range of fish species. The majority of the pass is well constructed (Figure 1), however there is quite a steep grade at the bottom (downstream) end of the pass, and after construction rocks were deposited in the stream at the base of the pass to reduce the grade and eliminate any hydraulic drops. These rocks may need to be repositioned or perhaps replaced from time to time (particularly after high flows or freshes in the stream) to ensure no hydraulic drops develop that may prevent successful upstream migration.

A spotlighting survey was performed in the Kakapo Stream upstream and downstream of the old New Plymouth District Council (NPDC) Urenui water supply dam on 23 April 2015, to assess the effectiveness of the fish pass installed in May 2002 (Figure 1). Only four other

fish surveys have been conducted in this stream, in May 2004 (Colgan, 2004), February 2008 (Jansma, 2008) and February 2011 (Jansma, 2011) using electric fishing methods, and June 2005 (Hope, 2005) using spotlighting methods. Both were conducted to monitor the Urenui weir and fish pass.



Figure 1 Kakapo Stream looking upstream, approximately half way up fish pass over the former Urenui water supply dam

Methods

In this survey, two sites were sampled, one site upstream of the weir and one site downstream of the weir. The night-spotting method used battery-powered spotlights and handheld nets, which were used by two observers to (where able), catch and identify the fish. Fish lengths were estimated. Inevitably some fish evaded capture and could not be identified to species level. However, in most cases these fish were identified to genus level. Details of the sites surveyed are given in Table 1.

Table 1 Location of sites surveyed for fish in relation to the decommissioned Urenui water supply dam on the Kakapo Stream

Stream	Site code	Description	Altitude (m)	Distance Inland from sea (km)
Kakapo Stream	KKP000050	Approx 100m upstream of dam and fish pass	60	4.6
	KKP000055	Approx 100m downstream of dam and fish pass	60	4.3



Figure 2 Location of sites surveyed in relation the decommissioned Urenui water supply dam on the Kakapo Stream

Results

The results of the fish survey conducted in the Kakapo Stream on 23 April 2015 are given in Table 2. Upstream of the dam, the stream was had an average width of approximately 0.5m, and a stream length of approximately 55m was surveyed. Downstream of the weir, the stream was slightly wider (average width approximately 0.75m), and a stream length of approximately 100m was surveyed. As a result, approximately 28m² was surveyed upstream and 75m² was surveyed downstream.

Habitat in the stream differed between the two sites surveyed. Upstream of the weir the stream was quite overgrown by riparian vegetation. Although this provided good cover for fish it also made the stream difficult to survey. In addition to this overhanging vegetation, additional cover was also provided by undercut banks. Water speed in this reach was swift, but there were some areas of slower flow where the water pooled. In addition to the survey of the Kakapo Stream mainstem, a small area was surveyed in a tributary, where it formed a large wet area below a culvert crossing. This tributary joined the Kakapo Stream just downstream of site KKP000050.

Downstream of the dam, a greater proportion of habitat was provided by undercut banks, some bank vegetation and instream debris, with swift rapid areas predominant with the occasional pool and riffle. This predominant swift flow made observing fish in this reach very difficult. Since the previous survey (2011), there had been significant slumping of the banks, making access to the stream difficult. As a result, although 75m² was surveyed, there were areas that could not be viewed. Previously noted at this site downstream of the dam,

were a significant population of large freshwater mussels, and these mussels were again observed in the current survey. Those fish observed in the pool immediately below the access culvert are also included in Table 2.

Table 2 Fish species recorded in the Kakapo Stream upstream and downstream of the water supply dam together with results of past surveys. The size range is given in brackets. The upstream results include the results for the unnamed tributary.

Fish species recorded	KKP000050 Upstream of dam		KKP000055 Downstream of dam	
	Present survey	Previous surveys (4)	Present survey	Previous surveys (3)
Redfin bully	-	P	3 (80-100)	P
UID* bully	-	P	-	P
Banded kokopu	14 (60-150)	P	1 (150)	P
Giant kokopu	-	-	1(200)	P
Inanga	-	P	-	P
UID* galaxiid	3 (60)	P	4 (80-120)	-
Longfin eel	-	P	4 (300-500)	P
Elver*	-	-	-	P
UID* eel	-	P	-	P
<i>Koura</i> *	-	P	3	P
<i>Shrimp</i> *	-	P	P	P
<i>Freshwater mussels</i> *	-	-	P	P
Total abundance of fish	17	-	13	-
Total no. of fish species	1	4	4	5

P=Present C=Common A=Abundant

UID = unidentified

* Not included in number of species and abundance calculations

As found in the previous surveys at these sites, a low diversity of fish was recorded with only one fish species upstream and four downstream of the weir in the current survey. The diversity upstream of the dam during the current survey was reduced on that recorded in the previous surveys, although this also reflects the change in survey methodology. This low diversity is not necessarily of concern, as it reflects the habitat available in the stream, and the associated difficulty in surveying it.

Redfin bullies (*Gobiomorphus huttoni*) are considered moderate climbers and a good indicator species to demonstrate the effectiveness of the fish pass. Redfin bullies were only recorded downstream of the weir, but have been recorded upstream in the past, suggesting that the fish pass was adequate to provide passage for this species over the earth dam. This species is best surveyed using the electric fishing methodology.

Previous surveys have observed galaxiid species both upstream and downstream of the weir, and the 2008 survey identified inanga (*Galaxias maculatus*) and banded kokopu (*Galaxias fasciatus*) upstream of the dam. In addition, giant kokopu have been previously recorded downstream of the dam. These species are often found in small gently flowing weedy/boggy streams such as the Kakapo Stream (McDowall, 2000). The present survey re-confirmed the presence of banded kokopu upstream of the dam, but no inanga were recorded (*Galaxias maculatus*) either above or below the dam. Inanga are considered to be poor climbers and only penetrate well upstream in low gradient rivers. Although this species was not recorded upstream of the dam in the current survey, the presence of this species upstream of the dam in a previous survey, and the presence of banded kokopu in the current survey, indicates that the fish pass is likely to provide adequate passage for poor to strong climbers. The fact that a number of small banded kokopu were recorded upstream of

the dam shows that this species is actively recruiting, also indicating that the dam is not a barrier to this species.

Some previous surveys recorded no eels (*Anguilla sp.*) upstream of the dam, although it was concluded that due to their strong climbing abilities, the fish pass would not present a barrier to their upstream migration. This was confirmed in the two preceding surveys, with longfin eels recorded upstream, although no eels were observed upstream in the current survey.

A visual assessment of the lower portion of spillway indicates that the structure is stable, with no obvious change to the channel. In addition, the spillway did not appear to be 'perched' in that the water flowed off the spillway, as opposed to free falling. Where water falls from a structure, fish passage can be severely impeded.

Considering the observations made in the current survey, it is recommended that fish monitoring of the Kakapo Stream be discontinued, but that it be replaced with an inspection of the spillway, with this inspection occurring at a frequency no less than once every two years. This inspection should focus on the downstream end, where it re-enters the stream channel, but would preferably also extend right up the spillway.

Conclusions

The fish survey conducted on 23 April 2015 upstream and downstream of the decommissioned NPDC Urenui water supply dam in the Kakapo Stream recorded a low fish diversity, although this is considered a reflection of the swift flows and overgrown nature of the surveyed reaches, making it difficult to see the fish.

The presence of an abundant population of banded kokopu upstream of the dam in the current survey, and the presence of inanga and redfin bully upstream of the dam in previous surveys, suggests that the fish pass provides adequate passage for fish with poor to strong climbing abilities. The previous survey recorded longfin eel upstream of the dam, and although no eels were recorded upstream of the dam in the current survey, a visual assessment of the spillway supports previous conclusions that the fish pass was not expected to pose a barrier to these strong climbing fish.

Although a more diverse community was recorded downstream of the dam, this reach also had the most diverse habitat, and is therefore more likely to support a more diverse community. There were no new species recorded at either site during the current survey, but the stream continued to support good populations of galaxiids, included giant kokopu, and freshwater mussel, although these two species were only recorded downstream of the weir.

Monitoring to date suggests that compliance with special condition 2 of resource consent 5989 is currently being achieved. In addition, a visual assessment of the lower portion of spillway indicates that the structure is stable, with no obvious change to the channel. Therefore it is concluded that this structure is unlikely to pose a barrier to fish passage in the near future, and hence it is recommended that fish surveys of the Kakapo Stream are discontinued. However, it should be replaced with an inspection of the spillway, with this inspection occurring at a frequency no less than once every two years. This inspection should focus on the downstream end, where it re-enters the stream channel, but would preferably also extend right up the spillway.

References

Colgan B. 2004: Fish survey in the Kakapo Stream in relation to the decommissioned Urenui water supply dam and new fish pass. Internal memorandum to M O'Rourke, 24 August 2004.

Hope K.J. 2005: Fish survey in Kakapo Stream conducted in relation to the fish pass on the decommissioned Urenui water supply dam, June 2005. Internal memorandum to M O'Rourke, 12 August 2005.

Jansma B. 2008: Fish survey in Kakapo Stream conducted in relation to the fish pass on the decommissioned Urenui water supply dam, February 2008. Report No. BJ106.

Jansma B. 2011: Fish survey in Kakapo Stream conducted in relation to the fish pass on the decommissioned Urenui water supply dam, February 2011. Report No. BJ144.

Jowett I.G. & Richardson, J. 1996: Distribution and abundance of freshwater fish in New Zealand rivers. *New Zealand Journal of Marine and Freshwater Research*, Volume 30:239-255.

McDowall R.M., 2000: *The Reed Field Guide to New Zealand Freshwater Fishes*. Reed books, Reed Publishing (New Zealand) Ltd. 224pp.