

Oaonui Water Supply Ltd
Monitoring Programme
Annual Report
2018-2019

Technical Report 2019-96

ISSN: 1178-1467 (Online)
Document: 2317582 (Word)
Document: 2430840 (Pdf)

Taranaki Regional Council
Private Bag 713
STRATFORD
April 2020

Executive summary

The Oaonui Water Supply Ltd (the Company) operates a rural water supply scheme located on Arawhata Road, Oaonui in the Oaonui catchment. The report for the period July 2018 to June 2019 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the Company's environmental and consent compliance performance during the period under review. The report also details the results of the monitoring undertaken and assesses the environmental effects of the Company's activities.

The Company holds three resource consents, which include a total of 26 conditions setting out the requirements that the Company must satisfy. The Company holds one consent to allow it to take and use water, one consent to maintain a weir, and one consent to discharge contaminants from intake sluicing. The Council's monitoring programme for the year under review included two inspections, a review of water abstraction data, one macroinvertebrate survey, one fish survey and four stream gaugings.

During the year, the Company demonstrated a good level of environmental performance.

During the year, an improvement was required in the Company's level of administrative performance with the resource consents as defined in Section 1.1.4. The data and reporting requirements of the consent 0231-4 were not met due to the position of the flow meter which could not record the actual rate. An abatement notice was issued directing the Company undertake works to address this. These works were completed shortly after the monitoring period.

Fish and macroinvertebrate surveys recommended further surveys be made tailored specifically to monitor the effects of sluicing as well as discharges and abstraction. A report to investigate the ecological effects of the Company activities is required by consent conditions on 1 June 2020.

For reference, in the 2018-2019 year, consent holders were found to achieve a high level of environmental performance and compliance for 83% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 13% of the consents, a good level of environmental performance and compliance was achieved.

In terms of overall environmental and compliance performance by the consent holder over the last several years, this report shows that the consent holder's performance was maintained during the year under review.

This report includes recommendations for the 2019-2020 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	1
1.1.4	Evaluation of environmental and administrative performance	2
1.2	Process description	3
1.3	Resource consents	4
1.4	Monitoring programme	4
1.4.1	Introduction	4
1.4.2	Programme liaison and management	5
1.4.3	Site inspections	5
1.4.4	Data review	5
1.4.5	Fish surveys	5
1.4.6	Macroinvertebrate surveys	5
1.4.7	Hydrological gauging	5
2	Results	6
2.1	Inspections	6
2.2	Abstraction and stream flow data	6
2.3	Macroinvertebrate surveys	7
2.4	Fish survey	8
2.5	Incidents and Enforcements	9
3	Discussion	11
3.1	Discussion of site performance	11
3.2	Environmental effects of exercise of consents	11
3.3	Evaluation of performance	11
3.4	Recommendation from the 2017-2018 Annual Report	13
3.5	Alterations to monitoring programmes for 2019-2020	14
4	Recommendations	15
	Glossary of common terms and abbreviations	16
	Bibliography and references	17
	Appendix I Resource consents held by Oaonui Water Supplies Limited	

List of tables

Table 1	Resource consents held by the Company	4
Table 2	Summary of compliance with abstraction rates and data supply	7
Table 3	Incidents, investigations, and interventions summary table	10
Table 4	Summary of performance for Consent 0231-4	11
Table 5	Summary of performance for Consent 5453-2	12
Table 6	Summary of performance for Consent 10314-1	13

List of figures

Figure 1	The Company's water service area	4
Figure 2	Macroinvertebrate index results recorded in the Oaonui Stream in relation to the Oaonui Water Supply Stream Weir, 25 March 2019	8
Figure 3	Location of fish survey sites	9

1 Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is for the period July 2018 to June 2019 by the Taranaki Regional Council (the Council) describing the monitoring programme associated with resource consents held by the Oaonui Water Supply Ltd. The Company operates rural water supply scheme situated on Arawhata Road, Oaonui.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consents held by the Company that relate to abstractions and discharges of water in the Taungatara catchment. This is the third dedicated annual report to be prepared by the Council to cover the Company's water abstractions and structures. Previously the Company compliance monitoring was reported in the joint South Taranaki Water Supplies report.

1.1.2 Structure of this report

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

- consent compliance monitoring under the RMA and the Council's obligations;
- the Council's approach to monitoring sites through annual programmes;
- the resource consents held by the Company in the Oaonui catchment;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted at the site.

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

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

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

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

1.1.3 The Resource Management Act 1991 and monitoring

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

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

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Council is recognising the comprehensive meaning of 'effects' inasmuch as is appropriate for each activity. Monitoring programmes are not only based on existing permit conditions, but also on the

obligations of the RMA to assess the effects of the exercise of consents. In accordance with Section 35 of the RMA, the Council undertakes compliance monitoring for consents and rules in regional plans, and maintains an overview of the performance of resource users and consent holders. Compliance monitoring, including both activity and impact monitoring, enables the Council to continually re-evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region's resources.

1.1.4 Evaluation of environmental and administrative performance

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

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

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

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

Environmental Performance

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

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

For example:

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

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

Poor: Likely or actual adverse effects of activities on the receiving environment were significant. There were some items noted during monitoring, from self reports, or during investigations of incidents reported to the Council by a third party. Cumulative adverse effects of a persistent moderate non-compliant activity could elevate an 'improvement required' issue to this level. Typically there were grounds for either a prosecution or an infringement notice in respect of effects.

Administrative performance

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

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

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

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

For reference, in the 2018-2019 year, consent holders were found to achieve a high level of environmental performance and compliance for 83% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 13% of the consents, a good level of environmental performance and compliance was achieved.¹

1.2 Process description

Water is abstracted from the Oaonui Stream via gravity fed intake situated behind a large weir. The water then flows via a settling pond to a small treatment shed where chlorine is added prior to being distributed to rural customers. Water is also supplied to the Maui production station for fire-fighting purposes. Once a day the intakes are sluiced to clear accumulated silt.

¹ The Council has used these compliance grading criteria for 15 years. They align closely with the 4 compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

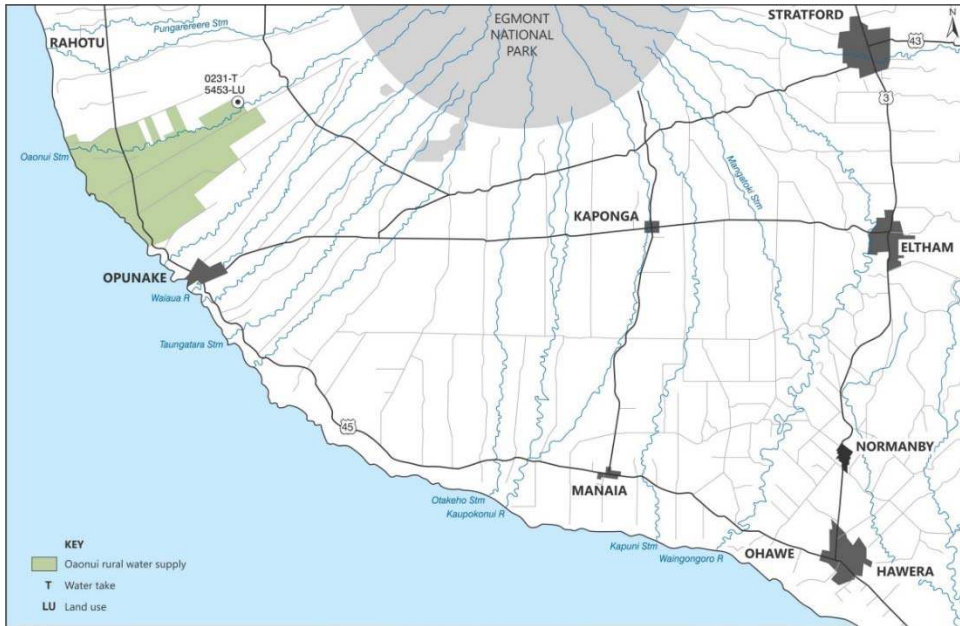


Figure 1 The Company's water service area

1.3 Resource consents

The Company holds three resource consents the details of which are summarised in the table below. Summaries of the conditions attached to each permit are set out in Section 3 of this report.

A summary of the various consent types issued by the Council is included Appendix I, as are copies of all permits held by the Company during the period under review.

Table 1 Resource consents held by the Company

<i>Water abstraction permit</i>				
0231-4	To take and use water from the Oaonui Stream for a rural community water supply scheme including the Maui Production Station	01/05/2017	June 2022	01 Jun 2036
<i>Land use permit</i>				
5453-2	To use and maintain a weir and water intake structure on the bed of the Oaonui Stream, and to dam water, for water supply purposes	01/05/2017	June 2022	01 Jun 2036
<i>Discharges to water</i>				
10314-1	To discharge water and contaminants into the Oaonui Stream from sluicing a weir	01/05/2017	June 2022	01 Jun 2036

1.4 Monitoring programme

1.4.1 Introduction

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

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

The monitoring programme for the Company's site 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;
- discussion over monitoring requirements;
- preparation for any consent reviews, renewals or new consent applications;
- advice on the Council's environmental management strategies and content of regional plans; and
- consultation on associated matters.

1.4.3 Site inspections

The Company site was visited on two occasions 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 waters. Sources of data being collected by the Company were identified and accessed, so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council.

1.4.4 Data review

Abstraction rate and volume data was supplied by the Company and reviewed by Council staff. Stream stage and residual flow data is also reviewed.

1.4.5 Fish surveys

Fish surveys are carried out every three years to assess the effectiveness of the fish pass on the weir. A survey carried out in this monitoring period with next being due 2021-2022. However due to the reporting requirements of the consents further data is needed and an extra fish survey is programmed for the 2019-2020 period.

1.4.6 Macroinvertebrate surveys

Council undertook one two-site macroinvertebrate survey to assess effects (if any) of the Company's activities and structures on macroinvertebrate communities in the Oaonui Stream.

1.4.7 Hydrological gauging

Council staff undertook four gaugings at the telemetered stage recording site. To establish a ratings curve for the site.

2 Results

2.1 Inspections

7 September 2018

A site meeting was held to discuss the abstraction meter and the requirements of the consent and the water metering and measurement regulations. It was advised by Council staff that the water meter in its current position is not compliant for the following reasons.

1. It cannot accurately measure the rate of at which water is abstracted from the Oaonui Stream as required by the regulations and consent 0231-4. This being largely due to the intervening reservoir.
2. That any prior approvals to have the meter situated in its current location are void if the meter is not accurately measuring the rate of take.

The Company investigated location options for a water meter to measure accurate abstraction data and report it back to council. Council staff provided the requested information and offered further assistance if required.

The rest of the site was inspected. An intake sluice was triggered and this was observed as being compliant with both effects on quality and quantity of water in the downstream environment. The weir and fish pass were in good condition and working well. Aside from the non-compliant meter, no other issues or non-compliances were noted.

An abatement notice was issued directing the Company to undertake works to comply with national regulations and consent conditions.

19 June 2019

The site was visited to conduct a compliance monitoring inspection. The intake screen, weir and fish pass was inspected and no issues were noted. The sluice was not in operation at the time of the inspection. Preparatory work had been done to install a new flow meter required by abatement notice EAC-22256. The location of the meter box and pipe work had been marked out in preparation for excavation.

2.2 Abstraction and stream flow data

During the monitoring period the Company supplied daily volumes of water taken and this was reviewed by Council staff.

It is noted however that because of the position of the flow meter, it is likely that the rate of abstraction is not accurately being measured due to the reservoir being between the flow meter and point of abstraction. Whilst Council is satisfied that the meter is recording volumes of water consumed by the scheme, it is not able to measure the rate at which water is being abstracted from the Oaonui Stream (as required by consent conditions and national regulations). The Council is working with the consent holder to achieve compliance in this matter.

Table 2 Summary of compliance with abstraction rates and data supply

Data Type	Compliance with consent limits	Completeness of required data
Telemetered stream stage/flow	Rating curve not set yet	100%
Telemetered abstraction rate	only consumption rates received – compliant in terms of value	full record of consumption rates received
Telemetered seven day abstraction volume	Yes	100%

2.3 Macroinvertebrate surveys

25 March 2019

The Council's 'kick-sampling' technique was used at two sites to collect streambed macroinvertebrates from the Oaonui Stream in relation to the consents held by the Company. Samples have provided data to assess any potential impacts the consented water abstraction and discharges may have had on the macroinvertebrate communities of this stream. Samples were processed to provide number of taxa (richness), MCI, and SQMCI scores for each site.

The MCI is a measure of the overall sensitivity of the macroinvertebrate community to the effects of nutrient pollution in streams. It is based on the presence/absence of taxa with varying degrees of sensitivity to pollution. The SQMCI takes into account taxa abundance as well as sensitivity to pollution, and may reveal more subtle changes in communities. Significant differences in either the MCI or the SQMCI between sites indicate the degree of adverse effects (if any) of the discharges being monitored and enable the overall health of the macroinvertebrate communities to be determined.

Macroinvertebrate taxa richness was moderate at both sites and was similar to the median recorded by 'control' sites at similar streams at comparable altitudes across the region. Site 1 recorded a slightly higher percentage of 'sensitive taxa' (52%), in comparison to site 2 (47%), however there were only two significant changes to the macroinvertebrate communities between sites 1 and 2.

MCI scores recorded above and below the weir were both reflective of 'fair' macroinvertebrate community health, and were not significantly different to one another. However, the SQMCI score recorded at site 1 was significantly higher than that recorded at site 2. In addition, the SQMCI score recorded at site 1 was reflective of 'fair' macroinvertebrate health, while the SQMCI score recorded at site 2 was reflective of 'poor' macroinvertebrate health. In comparison to the median results recorded by 'control' sites, at streams at a comparable altitude, MCI scores were significantly lower at site 2 and SQMCI scores were significantly lower at both sites 1 and 2.

There was a substantial decrease in MCI and significant decrease in SQMCI score between site 1 and site 2, which may be indicative of some impacts from the activities related to the Oaonui Water Supply Scheme. Widespread and very thick nuisance periphyton was noted below the weir at site 2, which may explain some of the decreases recorded. However, overall, there was no strong evidence that activities at the Oaonui Stream Weir had caused any significant adverse impacts on the macroinvertebrate communities of the Oaonui Stream.

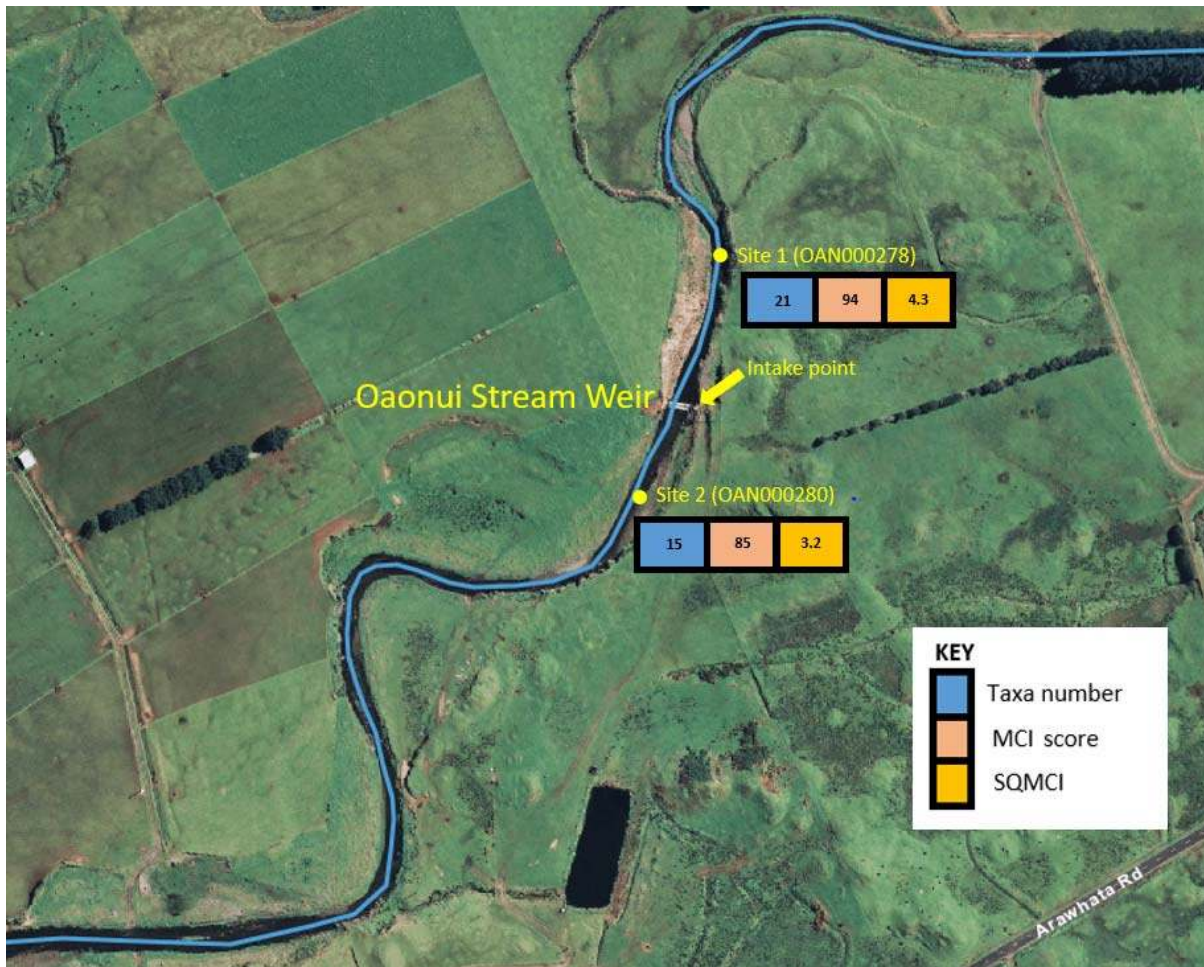


Figure 2 Macroinvertebrate index results recorded in the Oaonui Stream in relation to the Oaonui Water Supply Stream Weir, 25 March 2019

2.4 Fish survey

An electric fishing survey was conducted on 21 May 2019 at two sites. The first site was located immediately upstream of the Oaonui Water Supply weir, while the second site was located just downstream of the weir. Fish diversity was both low upstream and downstream of the weir. Fish species recorded, were similar upstream and downstream of the weir. The only differences were a brown trout downstream of the weir and shortfin eel upstream of the weir, however, it is possible that there were juvenile shortfin eel in the unidentified eel category downstream of the weir. No target species were recorded during this survey (torrentfish and inanga), although redfin bully were recorded upstream of the weir. Fish abundance was lower than past surveys and was dominated by juvenile eel, which could be a result of not using a seine net during this survey which caught a number of redfin bully in 2016.

It was noted in the past survey that flow downstream of the weir was severely impacted by the sluicing activities, with flow essentially stopping for a period following sluicing. The high proportion of juvenile eel may be a direct reflection of the impacts of the sluicing activities which have remained unchanged since the previous survey. This is because juveniles of this species prefer to live in shallow riffles, which is precisely the type of habitat that remained when the headpond was filling. In addition, the other species that would be expected at this altitude do not prefer shallow water, and it is likely that their migration upstream will be inhibited by these sluicing activities, especially if the reduction of flow extends for an extended length downstream.

Monitoring of fish communities to date indicates that the fish pass is operating with reasonable success. Annual fish surveys of the pass are not required provided that regular inspection of the pass confirms that it is operating as required and being maintained. It is recommended that fish monitoring continue at the rate of once every three years with changes to the timing of the survey and methodology to be reconsidered to more accurately determine if passage is being achieved for indicator species. Considerable thought still needs to be applied to the current practice of sluicing the intake. The potential adverse effects of the sluicing activity needs further exploration, particularly during periods of upstream migrations for fish such as inanga. It is likely that this practice is currently resulting in a significant reduction in flow for an extended reach downstream. This is likely to be influencing the fish community of this reach, potentially inhibiting the passage of fish upstream to the weir, and also possibly decreasing our ability to detect issues with fish passage over the weir. I therefore recommend that a survey be undertaken to identify any potential adverse effects on the fish community and fish passage arising through the sluicing activity during the early summer period of 2019/2020.

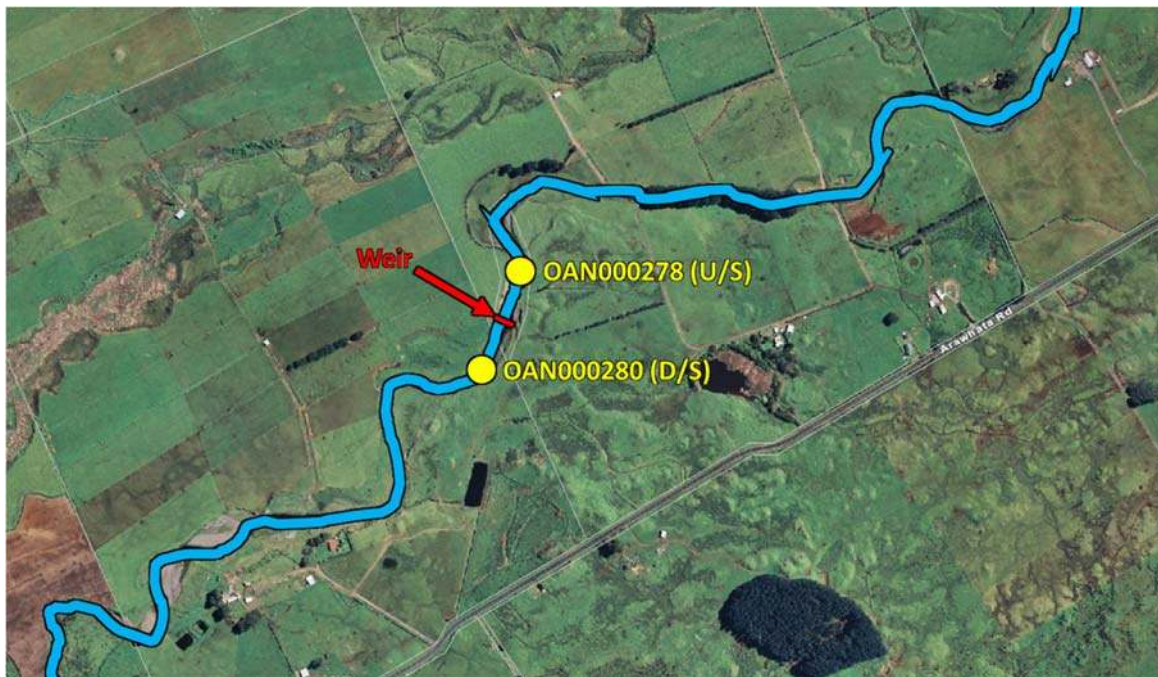


Figure 3 Location of fish survey sites

2.5 Incidents and Enforcements

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 Company. During the year matters may arise which require additional activity by the Council, for example provision of advice and information, or investigation of potential or actual causes of non-compliance or failure to maintain good practices. A pro-active approach, that in the first instance avoids issues occurring, is favoured.

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

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

Table 3 below sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to the Company's activities during the 2018-2019 period. This table presents

details of all events that required further investigation or intervention regardless of whether these were found to be compliant or not.

Table 3 Incidents, investigations, and interventions summary table

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
7 Sep 2018	Non-compliant abstraction meter	N	Abatement notice	New meter installed July 2019

3 Discussion

3.1 Discussion of site performance

During the monitoring period it was identified that the measurement of abstraction rates and volumes were not meeting the national water metering regulations. The Company in consultation with the Council undertook significant works to ensure compliance with the regulations and consent conditions. A new compliant meter was installed and data was being received by August 2019.

No other issues were noted at the site during inspections.

3.2 Environmental effects of exercise of consents

No effects were noted during inspection and water abstraction volumes were complied with for over of the monitoring period. The fish pass was found to be in good order and a fish screen was fitted to the intake. Fish and macroinvertebrate surveys found no direct evidence of adverse effects as a result of the Company's activities. It is noted however that the sluicing of the intake everyday may be affecting fish populations in terms the type and number of species. As required by consent 10134-1.0 the Company must provide a report underlying the effects on the ecology of the Oaonui Stream resulting from the structure, discharge and taken of water by June 2020. It is recommended another fish survey be undertaken in the 2019-2020 period providing further information for the consultant writing the ecological report.

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 2 to 4.

Table 4 Summary of performance for Consent 0231-4

Purpose: To take and use water from the Oaonui Stream for a rural community water supply scheme and the Maui Production Station		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Permitted uses of water	Inspection/liaison with consent holder	Yes
2. Permitted rates and volume of abstraction	Data received	No- volumes received - <i>actual</i> abstraction rate data not received
3. Installation of a meter and logger by 1 December 2017	Data received and meter inspected	No – meter installed but only recording consumption rates
4. Certification of equipment	National environmental standards verification in place	Yes
5. Notification of equipment failure	Notification received	Yes
6. Accessibility of metering equipment	Inspection	Yes
7. Measurement of stream flow	Stage meter installed	No – meter installed but not reading to accuracy of $\pm 10\%$

Purpose: To take and use water from the Oaonui Stream for a rural community water supply scheme and the Maui Production Station		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
8. Provision of records	Data received	Yes
9. Restriction of water use during low flows	No low flow period identified	N/A
10. Restriction of water use at Maui Production Station during low flow periods	No low flow period identified	N/A
11. Provision of report describing requiring water to ensure human and animal health by 1 December 2017	Review of submitted report	Yes
12. Financial contributions of \$2200 per year	Payment received	Yes
13. Notification of hydrotesting at Maui production station.	No notification received	N/A
14. Intake to adequately screen to prevent entrainment of fish.	Inspection	Yes
15. Provision of an efficiency report	Not required until 31 August 2018	Yes
16. Review condition	Review not required	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		Good Improvement required

N/A = not applicable

Table 5 Summary of performance for Consent 5453-2

Purpose: To use and maintain a weir and water intake structure on the bed of the Oaonui Stream, and to dam water, for water supply purposes		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Maintain weir to be fit for purpose	Inspection	Yes
2. Repair erosion or scour caused by weir	Inspection	Yes
3. Provide fish passage	Inspection and fish surveys	Yes
4. Review provision	A review is not required	N/A

Purpose: To use and maintain a weir and water intake structure on the bed of the Oaonui Stream, and to dam water, for water supply purposes		
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

N/A = not applicable

Table 6 Summary of performance for Consent 10314-1

Purpose: To discharge water and contaminants into the Oaonui Stream from sluicing a weir		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practice	Inspection/liaison with consent holder	Yes
2. Effects on receiving environment	Inspection	Not assessed this period
3. Provide report on effects on ecology	Report not due until June 2020	N/A
4. Review provision	Review not required	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

During the year the Company demonstrated a good level of environmental performance. However an improvement was required in the Company's level of administrative performance with the resource consents as defined in Section 1.1.4. It is noted that during the monitoring period significant works were undertaken by the Company to ensure their flow meter is compliant with national regulations and consent conditions.

3.4 Recommendation from the 2017-2018 Annual Report

In the 2016-2017 Oaonui Water Supply Limited Monitoring Report it was recommended:

1. THAT for 2018-2019 the monitoring programme for the Company, be amended to include discharge monitoring, stream gauging, telemetry site maintenance and macroinvertebrate surveys.
2. THAT should there be issues with environmental or administrative performance in 2018-2019, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.
3. THAT the option for a review of resource consents 0231-4, 5453-2 and 10314-1 in June 2019, as set out in the consents conditions, not be exercised, on the grounds that the current conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent.

These recommendations were implemented in full.

3.5 Alterations to monitoring programmes for 2019-2020

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

- the extent of information made available by previous authorities;
- its relevance under the RMA;
- its obligations to monitor emissions/discharges and effects under the RMA; and
- to report to the regional community.

The Council also takes into account the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki emitting to the atmosphere/discharging to the environment.

It is proposed that for the 2019-2020 period, that monitoring of the Company continue at the same level as that undertaken in the 2018-2019 period, with the exception of the triennial fish survey which next scheduled for the 2021-2022.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the site in question. The Council reserves the right to subsequently adjust the programme from that initially prepared, should the need arise if potential or actual non-compliance is determined at any time during 2019-2020.

4 Recommendations

1. THAT in the first instance, monitoring of consented activities at the Company in the 2019-2020 year continue as that undertaken in the 2018-2019 period, with the exception of the triennial fish survey which next scheduled for the 2021-2022 period.
2. THAT should there be issues with environmental or administrative performance in 2019-2020, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Glossary of common terms and abbreviations

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

Biomonitoring	Assessing the health of the environment using aquatic organisms.
Fresh	Elevated flow in a stream, such as after heavy rainfall.
g/m ³	Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.
Incident Register	The Incident Register contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.
L/s	Litres per second.
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.
Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.
Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15).
RMA	<i>Resource Management Act 1991</i> and including all subsequent amendments.
SS	Suspended solids.

For further information on analytical methods, contact a Science Services Manager.

Bibliography and references

- Thomas, B, 2019. *Biomonitoring of Oaonui Stream in relation to the Oaonui Water Supply Scheme, March 2019*. TRC report BT02.
- Clemens, K, 2019. *Fish survey conducted in the Oaonui Stream in relation to a STDC water supply weir, March 2016*. TRC report KC012.
- Taranaki Regional Council (2018): *Oaonui Water Supply Limited Monitoring Programme Annual Report 2017-2018*. Technical Report 2018-24.
- Taranaki Regional Council (2017): *Oaonui Water Supply Limited Monitoring Programme Annual Report 2016-2017*. Technical Report 2017-18.
- Taranaki Regional Council (2016): *South Taranaki Water Supplies Monitoring Programme Annual Report 2015-2016*. Technical Report 2015-103.
- Taranaki Regional Council (2015): *South Taranaki Water Supplies Monitoring Programme Annual Report 2014-2015*. Technical Report 2015-69.
- Taranaki Regional Council (2014): *South Taranaki Water Supplies Monitoring Programme Annual Report 2013-2014*. Technical Report 2014-121.
- Taranaki Regional Council (2013): *South Taranaki Water Supplies Monitoring Programme Annual Report 2012-2013*. Technical Report 2013-65.
- Taranaki Regional Council (2013): *South Taranaki Water Supplies Monitoring Programme Annual Report 2012-2013*. Technical Report 2013-65.
- Taranaki Regional Council (2012): *South Taranaki Water Supplies Monitoring Programme Annual Report 2011-2012*. Technical Report 2012-78.
- Taranaki Regional Council (2011): *South Taranaki Water Supplies Monitoring Programme Annual Report 2010-2011*. Technical Report 2011-42.
- Taranaki Regional Council (2010): *South Taranaki Water Supplies Monitoring Programme Annual Report 2009-2010*. Technical Report 2010-53.
- Taranaki Regional Council (2010): *South Taranaki Water Supplies Monitoring Programme Annual Report 2008-2009*. Technical Report 2009-84.
- Taranaki Regional Council (2008): *South Taranaki District Water Supply Plants Monitoring Programme Biennial Report 2006-2008*. Technical Report 2008-85.
- Taranaki Regional Council (2006): *South Taranaki District Water Supply Plants and Structures Monitoring Programme Annual Report 2005-2006*. Technical Report 2006-22.
- Taranaki Regional Council (2005): *South Taranaki District Water Supply Plants and Structures Monitoring Programme Annual Report 2004-2005*. Technical Report 2005-54.
- Taranaki Regional Council (2004): *South Taranaki District Council Water Supply Plants and Structures Monitoring Programme Annual Report 2003-2004*. Technical Report 2004-09.

Taranaki Regional Council (2003): *South Taranaki District Council Water Supply Plants and Structures Monitoring Programme Annual Report 2002-2003*. Technical Report 2003-69.

Taranaki Regional Council (2002): *South Taranaki District Council Water Supply Plants and Structures Monitoring Programme Annual Report 2001-2002*. Technical Report 2002-64.

Taranaki Regional Council (2001): *South Taranaki District Council Water Supply Plants and Structures Monitoring Programme Annual Report 2000-2001*. Technical Report 2001-65.

Taranaki Regional Council (2000): *South Taranaki District Council Water Supply Plants and Structures Monitoring Programme Annual Report 1999-2000*. Technical Report 2000-80.

Appendix I

Resource consents held by Oaonui Water Supplies Limited

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

Consent number	Purpose	Granted	Review	Expires
0231-4	To take and use water from the Oaonui Stream for a rural community water supply scheme including the Maui Production Station	01/05/2017	June 2022	01 Jun 2036
5453-2	To use and maintain a weir and water intake structure on the bed of the Oaonui Stream, and to dam water, for water supply purposes	01/05/2017	June 2022	01 Jun 2036
10314-1	To discharge water and contaminants into the Oaonui Stream from sluicing a weir	01/05/2017	June 2022	01 Jun 2036

Water abstraction permits

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

Water discharge permits

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

Air discharge permits

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

Discharges of wastes to land

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

Land use permits

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

Coastal permits

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

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

Name of
Consent Holder: Oaonui Water Supply Limited
PO Box 3157
New Plymouth 4347

Decision Date: 5 April 2017

Commencement Date: 1 May 2017

Conditions of Consent

Consent Granted: To take and use water from the Oaonui Stream for a rural community water supply scheme including the Maui Production Station

Expiry Date: 1 June 2036

Review Date(s): June 2019 and 3-yearly intervals thereafter

Site Location: Arawhata Road, Oaonui

Grid Reference (NZTM) 1676831E-5641435N

Catchment: Oaonui

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

General condition

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

Special conditions

1. This consent authorises taking water only for the purposes of providing:
 - (a) a general supply for domestic and farm use within the scheme area;
 - (b) water for general domestic uses and firefighting training at the Maui Production Station; and
 - (c) water for testing of bunds and tanks at the Maui Production Station.
2. The rate of taking shall not exceed 50 litres per second, and the volume taken in any 7 day period ending at midnight (New Zealand Standard Time) shall not exceed 28,000 cubic metres.
3. Before exercising this consent the consent holder shall install, and thereafter maintain a water meter and a datalogger at the site of taking (or a nearby site in accordance with Regulation 10 of the *Resource Management (Measurement and Reporting of Water Takes) Regulations 2010*. 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.

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.

Consent 0231-4.0

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 and a maintenance report provided to the Chief Executive, Taranaki Regional Council within 30 days of the work occurring.
6. Any water meter or datalogger shall be accessible to Taranaki Regional Council officers at all reasonable times for inspection and/or data retrieval. In addition the data logger shall be designed and installed so that Taranaki Regional Council officers can readily verify that it is accurately recording the required information.
7. From 1 December 2017, for flows less than 500 litres per second, the consent holder shall measure and record the flow in the Oaonui Stream at the take site at intervals not exceeding 15 minutes to an accuracy of $\pm 10\%$.
8. The records of water taken (condition 3) and of the stream flow (condition 7) shall:
 - (a) be in a format that, in the opinion of the Chief Executive, Taranaki Regional Council, is suitable for auditing;
 - (b) specifically record the water taken as 'zero' when no water is taken; and
 - (c) from 1 December 2017, be transmitted directly to the Taranaki Regional Council's computer system, within 2 hours of being recorded.
9. When the flow in the Oaonui Stream, measured immediately downstream of the intake point, has at any time on each of the three previous days been less than 151 litres per second, the taking of water shall be restricted to the minimum amount necessary to maintain the health and safety of people and animals (i.e. garden watering and other non-essential uses are prohibited).
10. No water shall be used for testing bunds or product storage tanks at the Maui Production Station when the flow in the Oaonui Stream, measured immediately downstream of the intake, has at any time on each of the three previous days been less than 151 litres per second.
11. Before 1 December 2017 the consent holder shall provide a report to the Chief Executive, Taranaki Regional Council that:
 - (a) identifies uses of water that are necessary to maintain the health and safety of people and animals; and
 - (b) details methods that the consent holder will use to ensure that only those uses identified in condition 11(a) will occur when the flow immediately downstream of the intake is less than 151 L/s.

The consent holder shall also provide a copy of this report to Te Kahui o Taranaki Trust and to Fish and Game.

Consent 0231-4.0

12. The consent holder shall mitigate or offset the environmental effects of the take by making annual payments of \$2200 (plus GST) to the Taranaki Regional Council as a financial contribution for the purpose of funding environmental enhancement projects. The environmental enhancement projects are, as first priority, to be in the Oaonui Stream catchment, and would include: enhancing, fencing and protection of wetlands, small streams and habitats of indigenous species. The amount to be paid shall be adjusted annually according to the consumer price index, or similar, to account for the effects of inflation, and be made no later than 1 September each year.
13. The consent holder shall notify the Taranaki Regional Council when the Maui Production station is undertaking testing on vessels and bunds. Notification shall include the consent number and shall detail the amount of water needed, type of test and test date and be emailed to worknotification@trc.govt.nz.
14. The consent holder shall ensure that the intake at the weir is designed to avoid fish entering the intake or being trapped against the screen.
15. Before 31 August 2018 the consent holder shall provide an 'Efficiency Audit Report', prepared by a suitably qualified independent person, to the Chief Executive, Taranaki Regional Council. The report shall have the following objectives:
 - (a) characterising 'efficient water use' in the context of the Oaonui Water Supply;
 - (b) describing the current level of efficiency of the Oaonui Water Supply Scheme;
 - (c) identifying any barriers to efficient water use; and
 - (d) identifying how efficient water use can be achieved, including a timetable.

The report shall include as a minimum:

- (i) any work that could be undertaken to detect and minimise leaks;
- (ii) identification of water use efficiency and conservation measures that shall be practiced by individual users in order to achieve an appropriate level of efficiency;
- (iii) water use benchmarking data for the region, how the Oaonui Water Supply Scheme compares and reason for any significant differences;
- (iv) an assessment of the costs and benefits of individual metering;
- (v) the types of shed washdown methods used by farms in the scheme and how those methods contribute to efficient water use; and
- (vi) Recommendations to achieve efficient water use as appropriate.

The consent holder shall also provide a copy of this report to Te Kahui o Taranaki Trust and to Fish and Game.

Consent 0231-4.0

16. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2019 and at 3-yearly intervals thereafter for the purposes of:
- (a) ensuring efficient water use; and/or
 - (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.

Signed at Stratford on 5 April 2017

For and on behalf of
Taranaki Regional Council

A D McLay
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: Oaonui Water Supply Limited
PO Box 3157
New Plymouth 4347

Decision Date: 5 April 2017

Commencement Date: 1 May 2017

Conditions of Consent

Consent Granted: To use and maintain a weir and water intake structure on the bed of the Oaonui Stream, and to dam water, for water supply purposes

Expiry Date: 1 June 2036

Review Date(s): June 2019 and 3-yearly intervals thereafter

Site Location: Arawhata Road, Oaonui

Grid Reference (NZTM) 1676822E-5641433N

Catchment: Oaonui

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

General condition

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

Special conditions

1. The consent holder shall maintain the weir so that it remains sound and fit for purpose.
2. The consent holder shall repair any erosion or scour of the river bed or banks caused by the weir and take reasonable steps to stop it recurring.
3. The weir shall not restrict the passage of fish.
4. 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 2019, and 3-yearly intervals thereafter 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 5 April 2017

For and on behalf of
Taranaki Regional Council

A D McLay
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: Oaonui Water Supply Limited
PO Box 3157
New Plymouth 4347

Decision Date: 5 April 2017

Commencement Date: 1 May 2017

Conditions of Consent

Consent Granted: To discharge water and contaminants into the Oaonui Stream from sluicing a weir

Expiry Date: 1 June 2036

Review Date(s): June 2019 and 3-yearly intervals thereafter

Site Location: Arawhata Road, Oaonui

Grid Reference (NZTM) 1676828E-5641424N (sluicing discharge)
1676624E-5641124N (sand trap discharge)

Catchment: Oaonui

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

General condition

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

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any actual or likely adverse effect on the environment associated with the discharge and the activity generally, including by appropriately managing the timing, frequency and duration of sluicing.
2. The exercise of this consent shall not give rise to any of the following effects in the Oaonui Stream beyond a distance of 50 metres downstream of a discharge point:
 - (a) any conspicuous change in the colour or visual clarity;
 - (b) any emission of objectionable odour;
 - (c) the rendering of fresh water unsuitable for consumption by farm animals; and
 - (d) any significant adverse effects on aquatic life.
3. This consent shall not be exercised if, at any time on each of the three previous days, the flow in the Oaonui Stream downstream of the weir has been less than 151 litres per second.
4. The sluicing shall be managed to ensure that within 2 minutes of the sluice gate being closed the stream is flowing over the weir.
5. The consent holder shall ensure that an investigation is undertaken into the effects on the ecology of Oaonui Stream resulting from the exercise of this consent in combination with the damming authorised by consent 5453-2.0 and the taking authorised by consent 0231-4.0. A report on that investigation shall be provided to the Chief Executive, Taranaki Regional Council before 1 June 2020. The investigation shall be based on MCI and fish surveys.

The consent holder shall provide a copy of this report to Te Kahui o Taranaki Trust and to Fish and Game.

Consent 10314-1.0

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 2019 and at 3-yearly intervals thereafter, 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 5 April 2017

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management