Manawa Energy Ltd Motukawa HEP Scheme

Monitoring Programme Annual Report 2023/24

Technical Report 2024-25

Taranaki Regional Council

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Annual Report
2023/24
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Executive summary

Manawa Energy Ltd (the Company), formerly Trustpower Ltd, operates the Motukawa hydroelectric power (HEP) scheme in the Manganui River and Waitara River Catchments. The Company draws water from behind a weir on the Manganui River near Tariki and diverts this water through a race to Lake Ratapiko and then through penstocks to the Motukawa Power Station. The power station discharges into the Makara Stream, a tributary of the Waitara River. Consents for the Motukawa HEP scheme allow the Company to maintain structures, to take, divert and discharge water, and to disturb the bed of Lake Ratapiko.

This report for the period July 2023 to June 2024 describes the monitoring programme implemented by Taranaki Regional Council (the Council) to assess the Company's environmental and consent compliance performance during the period under review. The report also details the results of the monitoring undertaken and assesses the environmental effects of the Company's activities.

During the monitoring period, the Company demonstrated a high level of environmental performance and good level of administrative performance.

The Company holds a total of 13 resource consents, which include a total of 99 conditions setting out the requirements that they must satisfy. The Company holds five consents to allow it to take and use water, four consents to discharge water or sediment into the Makara, Mangaotea and Mako streams, and four land use permits for bed disturbance and structures in the Manganui River and Lake Ratapiko. All bar one consent of the monitored consents for the scheme expired in June 2022 and are currently undergoing the consenting renewal process. In the meantime, the Company continues to exercise the consents under the protection of section 124 of the Resource Management Act 1991.

The Council's monitoring for the period under review included six inspections of fish passage and residual flow facilities, continuous water temperature monitoring at two sites between November and April, and a biomonitoring survey. In addition, all monitoring data provided by the Company was reviewed. The range of information provided by the Company included abstraction and discharge data, lake and race water level information, and fish transfer data (elver and adult eel).

The monitoring showed that during the period under review, the management of abstraction rates, flushing flows, and race and lake water levels was generally good. There was good compliance with set flows and water levels.

During the 2023/24 period, the highest monthly mean water temperature was recorded in January both upstream and downstream of the weir. The lowest monthly mean was recorded in April for both sites. When comparing the sites, the downstream site had a higher mean monthly water temperature in all months monitored, when compared with that recorded upstream. The mean temperatures for 2023/24 were similar to the historical means for each month.

Macroinvertebrate monitoring demonstrated that there was no evidence that the Motukawa HEP scheme had adversely affected the macroinvertebrate community health of the Manganui River in the year under review.

Eel and elver passage requirements were fulfilled with the elver transfer system at the power station working well. The total weight of elvers transferred in the reporting period was substantially higher than the previous year, and the long term average. Transfer of adult eels has been attempted during each migration season, with three longfin eels transferred in the most recent season.

The Company was generally able to demonstrate a high level of environmental and administrative performance and compliance with the resource consents during the reported period. However, there was one unauthorised incident, in relation to notification of works, recording a non-compliance in respect of this consent holder during the period under review.

For reference, in the 2023/24 year, consent holders were found to achieve a high level of environmental performance and compliance for 864 (89%) of a total of 967 consents monitored through the Taranaki tailored monitoring programmes, while for another 75 (8%) of the consents a good level of environmental performance and compliance was achieved. A further 26 (3%) of consents monitored required improvement in their performance, while the remaining two (<1%) achieved a rating of poor.

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

This report includes recommendations for the 2024/25 year.

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1. Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is for the period July 2023 to June 2024 by Taranaki Regional Council (the Council) on the monitoring programme associated with resource consents held by Manawa Energy (the Company) for the Motukawa hydroelectric power (HEP) scheme. This scheme diverts water from the Manganui River to Lake Ratapiko and then onto the Motukawa Power Station on Motukawa Road.

The report includes 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 within the Waitara Catchment and associated instream structures. This report is the 29th annual report to be prepared by the Council to cover the Motukawa HEP scheme activities and their effects.

1.1.2 Structure of this report

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

- consent compliance monitoring under the *Resource Management Act 1991* (RMA) and the Council's obligations;
- the Council's approach to monitoring sites though annual programmes;
- the resource consents held by the Company in the Waitara 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 Company's 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 2023/24 monitoring year.

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

1.1.3 The Resource Management Act 1991 and monitoring

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

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

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

1.1.4 Evaluation of environmental performance

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

For reference, in the 2023/24 year, consent holders were found to achieve a high level of environmental performance and compliance for 864 (89%) of a total of 967 consents monitored through the Taranaki tailored monitoring programmes, while for another 75 (8%) of the consents a good level of environmental performance and compliance was achieved. A further 26 (3%) of consents monitored required improvement in their performance, while the remaining two (<1%) achieved a rating of poor.[1]

1.2 Process description

The Motukawa HEP scheme first generated electricity in January 1927 and has been modified over the years to improve efficiency. Previous monitoring reports provide additional detail on the scheme's history. The Company currently owns and operates the scheme, which was formerly operated by Powerco Ltd, Taranaki Energy and Trustpower Ltd. The main elements of the scheme are shown in Figure 1.

The Company draws water from behind a weir (referred to as the Tariki weir) on the Manganui River near Tariki and diverts this water through a settling pond and then via a water race into Lake Ratapiko, an artificial storage lake resulting from the damming of the Mako Stream. About halfway along, the race crosses the Mangaotea Stream. At this location, water has in the past been pumped from the Mangaotea Stream, and discharged to the water race to supplement the Manganui River take. However, this take has now ceased by the Company for various reasons which are discussed in previous reports. From Lake Ratapiko the water is piped through tunnel and penstock to the Motukawa Power Station, used to generate electricity, and discharged into the Makara Stream, a tributary of the Waitara River.

The Company have also installed an in-race generator. By constructing a small dam in the Motukawa Race and diverting water through a generator, it allowed the Company to utilise the natural head in the race at this point. A 200KW generator now produces about 0.9 gigawatt/hours of electricity per year.

[1] The Council has used these compliance grading criteria for more than 20 years. They align closely with the 4 compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

Figure 1 Main features of the Motukawa HEP scheme including consents

The Manganui River downstream of the weir carries a residual flow of at least 400L/s for 5km between the weir and the confluence with the Mangaotea Stream, with more flow if the Tariki weir is overtopping. The confluence with the next major tributary, the Mangamawhete Stream, is a further 8km downstream. This residual flow was implemented following the renewal of consent 3369 (2001), and the construction of a new fish pass on the true right bank, which carries approximately 300L/s of the residual flow past the weir (constructed in 2002). The remaining residual flow passes through an old (and mostly ineffective) fish pass on the true left bank of the weir.

Much of the scheme is monitored and operated remotely by the Company. Through an automated water level sensor system, the Company can monitor the residual flows in the Manganui River, water levels in the race and lake, and how much rain is falling locally. This has allowed the Company to manage race flows to minimise flooding and has greatly improved the Company's compliance with residual flow requirements.

1.3 Resource consents

The Company holds 13 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 in Appendix I, as are copies of all permits held by the Company during the period under review. Most consents for the scheme expired in June 2022 and are undergoing the consent renewal process.

Table 1 Summary of consents held by the Company for the Motukawa HEP scheme

Consent number	Purpose	Granted	Review	Expires
Water abstraction permits				
3369-2	To take and use up to 5200L/s of water from the Manganui River in the Waitara Catchment for hydroelectric power generation purposes	19 September 2001	-	1 June 2022 s124 protection
3371-2.1	To divert and use up to 8000L/s of stormwater run-off and the entire flow of various unnamed watercourses draining into the race and into Lake Ratapiko in the Waitara Catchment for hydroelectric power supply purposes	19 September 2001 Varied 4 July 2016	At any time if there is flooding attributable to the scheme	1 June 2022 s124 protection
5087-1	To take and use up to 7787L/s of water from Lake Ratapiko in the Waitara Catchment for hydroelectric power generation purposes	19 September 2001	-	1 June 2022 s124 protection
6388-1	To divert and use water in the Motukawa Race for hydroelectric power generation purposes	27 July 2004	-	1 June 2022 s124 protection
6390-1	To impound water behind a dam on the Motukawa Race for hydroelectric power generation purposes	27 July 2004 Varied 23 June 2006	-	1 June 2022 s124 protection
Water discharge permits				
3372-2	To discharge up to 7787L/s of water from the Motukawa hydroelectric power station into the Makara Stream in the Waitara Catchment	19 September 2001	-	1 June 2022 s124 protection
5082-1	To discharge, under emergency conditions, up to 2000L/s of overflow water from the Mangaotea Aqueduct into the Mangaotea Stream a tributary of the Manganui River in the Waitara Catchment	19 August 1999	-	1 June 2022 s124 protection
5084-1	To discharge up to 55,000L/s of hydroelectric power generation water, during adverse weather conditions, via spillways and lake drainage valves from Lake Ratapiko into the Mako Stream a tributary of the Makino Stream in the Waitara Catchment	19 September 2001	-	1 June 2022 s124 protection
5088-1	To discharge up to 2000L/s of water from the surge chamber of the Motukawa hydroelectric power station during maintenance periods into an unnamed tributary of the Makara Stream in the Waitara Catchment	19 September 2001	-	1 June 2022 s124 protection
Land use permits				
3373-2	To dam the Mako Stream a tributary of the Makino Stream in the Waitara Catchment to form Lake Ratapiko for hydroelectric power generation purposes, including the spillway structure	19 September 2001 Varied 4 November 2002	-	1 June 2022 s124 protection
5080-1	To erect, place, use and maintain the weir and various structures associated with hydroelectric power generation activities in the Manganui River in the Waitara Catchment	19 September 2001	-	1 June 2022 s124 protection
5085-1	To disturb the bed of Lake Ratapiko in the Waitara Catchment for maintenance and repairs associated with hydroelectric power generation purposes	19 September 2001	-	1 June 2022 s124 protection
10889-1	To dredge the bed of a settling pond in the Motukawa water race	11 December 2020	June 2026	1 June 2039

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 Motukawa HEP scheme consisted of six 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 scheme was visited nine times in total during the reported period, including three hydrological inspection, and six routine site inspections. With regard to consents for the abstraction of water, the main points of interest were:

- whether or not the old fish pass was free of blockages and to assess the flow over the old pass;
- to assess the flow and condition of the new fish pass;
- to assess residual flow compliance;
- to document whether the weir was overtopping;
- to assess water levels in the race and lake; and
- to monitor maintenance work where appropriate.

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 Water temperature monitoring

Water temperature was identified in past monitoring years as the water quality parameter of most concern in the residual flow reach (Consent 3369-2). The impact of the diversion of water at the weir on water temperatures in the Manganui River was assessed using continuous monitoring over the summer period (November to April) of the monitoring year. Two temperature recorders were used, one being located immediately upstream of the Tariki weir (T1) and the second recorder located 2.3km downstream of the Tariki weir (T2). The locations of the recorders are illustrated in Figure 2.

1.4.5 Data audit

The Company provided the Council with data on water abstraction from the Manganui River. Data for race and lake water levels, river flows (including residual flows) and discharge rates to the Makara Stream were also provided. The Council assessed the abstraction and discharge data to determine whether or not the abstraction/discharge rates exceeded the consented rates. The lake level data were assessed to determine whether or not the range in water levels in Lake Ratapiko was within the range specified in the consent conditions. The fish pass flows were compared with required residual flow requirements, while race water levels were also assessed to determine whether water levels exceeded maximum levels specified in consents. The locations of these water level monitoring sites are shown in Figure 3.

1.4.6 Biomonitoring surveys

Riverbed macroinvertebrate communities provide useful information relating to habitat quality because they are relatively sessile (attached to the bed), they can be easily sampled, and they form distinctive community structures that reflect certain physical and chemical conditions. There is also considerable past data for the Manganui River Catchment for comparison with new results.

During the discussed period, one biomonitoring survey was performed in the Manganui River to determine whether or not residual flows below the Tariki weir were sufficient to maintain healthy water quality and macroinvertebrate communities in the river. Four sites were sampled and their locations are shown in Figure 4.

1.4.7 Fish monitoring

Fish monitoring was not carried out during the review period and has been placed on hold whilst the consenting process is under renewal.

The elver trap and transfer system continued to operate over the reported period. Results of the transfers are reviewed in the current report (Consents 3372-2 and 3373-2).

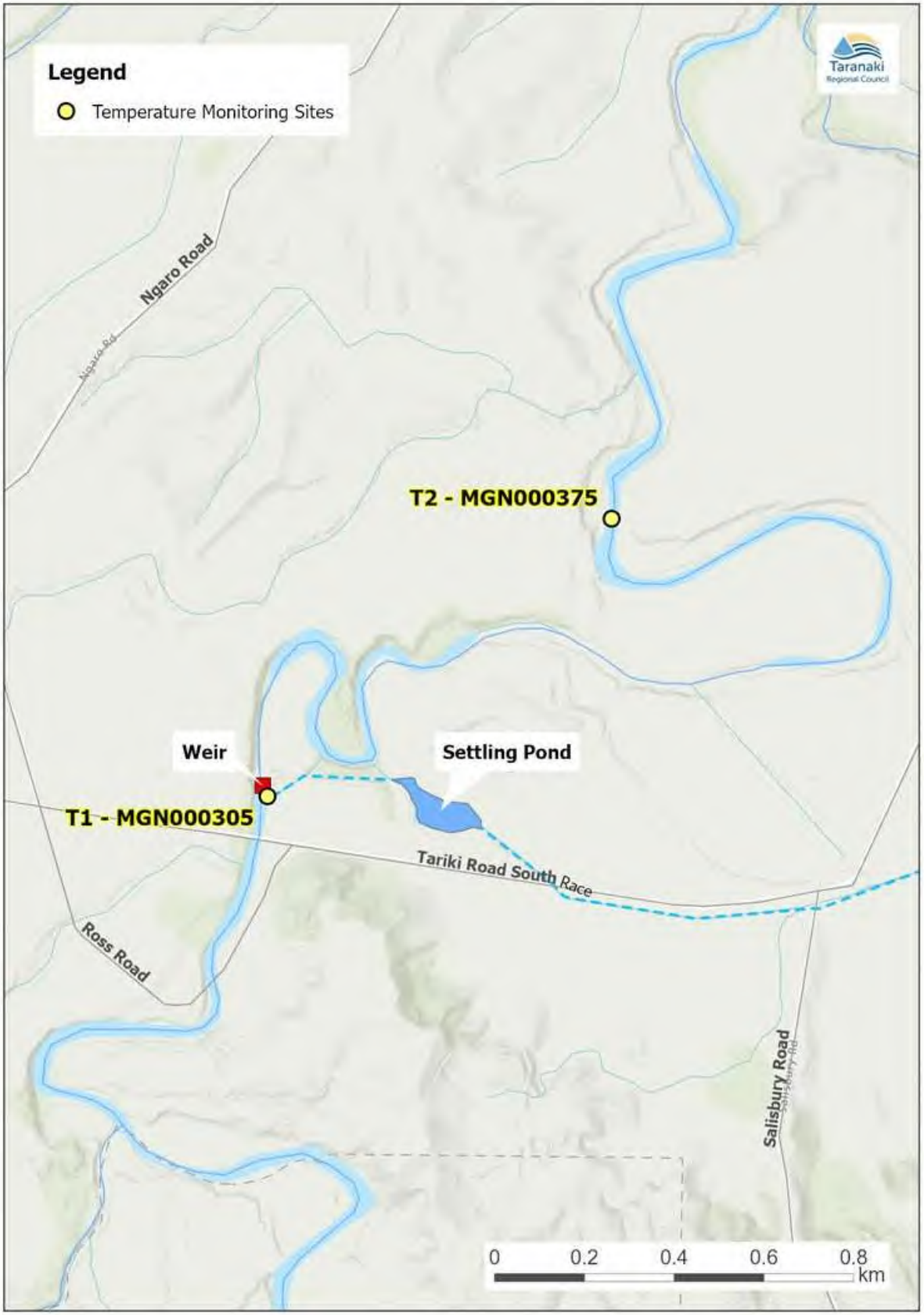

Figure 2 Continuous water temperature monitoring sites in the Manganui River in relation to the Motukawa HEP scheme

Figure 3 Location of water abstraction, discharge and water level monitoring sites for the Motukawa HEP scheme (limits in brackets)

Figure 4 Macroinvertebrate monitoring sites in the Manganui River in relation to the Motukawa HEP scheme

2. Results

2.1 Water

2.1.1 Inspections

Each routine inspection undertaken of the Motukawa HEP scheme essentially followed the same format, including checking water levels, fish passage, and making notes of general observations. Six inspections were undertaken during the monitoring period, including three visits to check the elver tank and associated system at the station during the migration, and one visit of the intake/forebay.

In general, compliance was found during the six inspections carried out. However, during the inspection carried out in May 2024 there was a non-compliance observed with regard to notification of dredging at the settling pond. See Section 2.4 for further details on this matter.

The fish pass remained in good condition throughout the monitoring year, and all gauge recordings were compliant. The elver tank at the station was in working order for the migration season, so too was the elver pass on Lake Ratapiko spillway.

No other major issues were identified during inspections.

Overall, site management was found to be reasonable throughout the monitoring period.

2.1.2 Hydrological inspections

Special condition 1 of Consent 3369-2 sets the residual flow that the operator needs to comply with in the Manganui River as follows:

1. The abstraction shall be managed to ensure that a residual flow of not less than 400L/s is maintained at all times in the Manganui River below the weir.

The Company provides this residual flow by passing flow through the new fish pass, located on the true right bank of the weir, and supplementing the flow through the old fish pass, located on the true left of the weir. When this residual flow is assessed for compliance purposes, a gauging is undertaken at each fish pass, with the total flow compared against the required amount of 400L/s. Gaugings are only undertaken when there is no more than an insignificant amount of water spilling over the Tariki weir.

Three hydrological inspections were undertaken in relation to the Manganui River residual flow. These inspections found that the residual flow was being provided as required (Table 2).

Table 2 Gauging results for the Manganui River residual flow

Date	Weir spilling	New fish pass flow (L/s)	Old fish pass flow (L/s)	Total residual flow (L/s)	Compliant
09/02/2024	No	356	152	508	Yes
22/03/2024	No	400	148	548	Yes
08/05/2024	No	335	147	482	Yes

2.1.3 Results of abstraction and discharge data audit

The Company holds several consents which, through various special conditions, require them to record abstraction rates, discharge rates and water levels, and provide these records to the Council on a three-monthly basis. The Company is currently providing this data monthly. The details of these consent requirements are shown in Table 3. Locations of the water level monitoring stations are shown in Figure 3.

Once these records are submitted, they are audited so as to assess compliance with the relevant consent conditions.

There are two aspects of compliance that are assessed, being the actual recording of data, and also staying within particular limits set by consents. There were no notable gaps in data for the majority of the 2023/24 monitoring period except for one occasion during January 2024. Notification was received that this was due to weir water level sensor issues, spillway data was lost intermittently for a total of 2d3h15m. Despite this short period of data loss, the Company remained compliant with the residual flow. The Company was compliant with the requirements related to the provision of abstraction and discharge data for the scheme.

During 2023/24 there were no breaches of the maximum water take conditions nor of the residual flow requirements in the Manganui River below the Tariki weir.

Records of the discharge to the Makara Stream show that there were no occasions during the 2023/24 monitoring period where the discharge rate exceeded the consent limit. Past compliance has been high with only one exceedance recorded since the 2002/03 monitoring year.

The lower lake water level limit has not been breached since records began on 1 July 2002. The fact that so few limits were breached indicates excellent management of the scheme.

There are certain operational requirements also set by consents, which require flushing flows of 400L/s to be released down the residual flow reach once the Tariki weir has not naturally overtopped for 30 days. There was one occasion during April 2024 when the Company provided a notification with regard to extremely low flows in the Manganui River due to unusually low rainfall for a sustained period. Generation ceased in order to allow for flow to top over the weir. Shortly afterwards rainfall alleviated the situation.

Other operational requirements are in place once flows in the Waitara River at the Bertrand Road bridge drop below 5,000L/s to ensure that either the abstracted water is passed continuously through the lake, or that abstraction cease (with regard to the 150L/s residual flow in the race). At no point during the monitoring period did the flow in the Waitara River at the Bertrand Road Bridge drop below 5,000L/s. It should be noted that the consent states that Council need to inform the Company of the low Waitara River flow, and only then are the Company required to comply with the special condition.

Table 3 Details of consents and special conditions in relation to abstraction rated, discharge rates, water levels and the recording

Resource Consent	Special Condition	Detail	Limit/Requirement
33692-Abstraction from Manganui River	3	Measuring rate of abstraction	Measuring abstraction rate from the Manganui River (not to exceed 5,200L/s ± 5% (logger error))
	5	Flushing flows if weir has not overtopped for 30 days	Release 400L/s for 3 hours daily
	4	If Waitara River drops below 5,000L/s	Cease abstraction or pass water continuously through power station
	7	Residual flow in race	Retain a flow of at least 150L/s, or a fish salvage is to be undertaken
3371-2.1-Diversion of water into race and Lake Ratapiko	2	Maximum race water levels	Race water level: Salisbury Rd: 205.20masl Mangaotea: 199.30masl Mangaotea Aqueduct: 199.25masl Lower Mangaotea: 199.15masl
	5	Recording of water levels and rainfall	Water levels at the above sites to be recorded, with the inclusion of rainfall at the Mangaotea Aqueduct
3372-2-Discharge to Makara Stream	2	Recording of discharge rate	Record the rate of water discharged to the Makara Stream (not to exceed 7,787L/s)

Resource Consent	Special Condition	Detail	Limit/Requirement
3373-2-To dam the Mako Stream	5	Minimum lake level	Minimum level: 194masl (except during maintenance)
	6	Maximum lake level	Maximum level: 198.7masl
	8	Recording data	Record the lake level at the spillway

2.1.4 Results of receiving environment monitoring

2.1.4.1 Water temperature monitoring

Data loggers were used for continuous monitoring of river water temperatures at two sites (Figure 2). One logger was located immediately upstream of the weir at Tariki Road while the second logger was located 2.3km downstream of the weir. Data has been collated and a monthly statistical summary presented together with data from the ten years (1992-2002) prior to the residual flow increase to 400L/s, and the 21 years (July 2002 to June 2023) since the residual flow increase (Table 4).

During the 2023/24 period, the highest monthly mean water temperature was recorded in January for both upstream and downstream of the weir (Table 4). The lowest monthly mean was recorded in April for both sites. When comparing the sites, the downstream site had a higher mean monthly water temperature in all months monitored, in comparison to those recorded upstream (0.51 to 1.46°C higher). The mean temperatures for 2023/24 were similar to the historical means for each month.

Table 4 Summary of summer Manganui River daily water temperatures (°C) prior to the increase in residual flow to 400L/s (1992-2002) and for the years since, upstream and downstream of Tariki weir

	November		December		January		February		March		April	
Era [location]	**Mean**	**Range**	**Mean**	**Range**	**Mean**	**Range**	**Mean**	**Range**	**Mean**	**Range**	**Mean**	**Range**
2023/24 [T2 d/s]	15.64	11.62-19.87	18.82	14.52-24.21	20.19	14.92-25.62	19.21	15.28-22.86	16.03	11.72-20.28	13.89	10.59-16.85
2023/24 [T1 u/s]	14.31	10.74-18.34	17.44	13.43-22.46	18.73	14.05-24.17	17.91	13.2-21.52	15.07	10.73-19.74	13.38	10.19-16.67
Temp. difference	1.33		1.38		1.46		1.30		0.96		0.51	
2022/23 [T2 d/s]	15.51	12.35-21.53	17.76	13.51-23.77	18.60	13.69-23.31	17.90	13.79-22.2	16.06	10.83-20.4	-	-
2022/23 [T1 u/s]	14.57	11.91-19.29	16.52	12.34-21.82	17.20	13.17-21.35	16.58	12.85-20.69	15.08	9.75-18.91	-	-
Temp. difference	0.94		1.24		1.40		1.32		0.98		-	-
2002-2023 (post 400L/s) [T2 d/s]	15.87	8.37-25.87	17.72	10.58-26.16	19.45	10.47-28.22	19.12	11.78-27.76	16.69	10.32-24.06	13.54	7.84-18.99
2002-2023 (post 400L/s) [T1 u/s]	14.69	7.77-23.5	16.54	9.71-24.34	18.17	10.73-26.35	18.13	11.3-25.58	15.92	9.64-22.32	13.05	6.72-18.2
Temp. difference	1.18		1.18		1.28		0.99		0.77		0.49	
1992-2002 (pre 400L/s) [T2 d/s]	15.20	8.4-22.73	17.72	10.96-24.61	19.52	12.01-28.34	19.51	12.01-25.8	16.77	11.0-22.4	13.96	9.26-20.44
1992-2002 (pre 400L/s) [T1 u/s]	13.88	7.86-20.24	16.27	10.38-22.76	17.91	11.08-24.61	17.92	11.69-23.74	15.53	9.4-21.73	12.91	8.29-17.03
Temp. difference	1.32		1.45		1.61		1.59		1.24		1.05	

*Some historical data presented in this table differs to data previously published for the same time periods as a result of the method used to process the data.

Maximum temperatures recorded upstream and downstream of the abstraction both occurred during January 2024 on the same day in the afternoon. The maximum upstream temperature for the reporting period was 24.2°C which is towards the higher end of the historical range for the month. The maximum downstream temperature for the reporting period was 25.6°C which is a mid to high range monthly temperature within the historical data. This was 2.7°C less than the highest temperature recorded at this site, recorded at a time when the required residual flow was lower than the current limit (28.3°C on the 21 January 1999). However, previous data indicates how variable conditions within the stream can be, with respect to the preceding weather conditions.

Table 5 Proportionate summary in percentage of maximum daily water temperatures in the Manganui River, upstream and downstream of Tariki weir, between 1 November and 30 April inclusive

Period	Location	< 10 °C	10-15 °C	15-20 °C	20-25 °C	> 25 °C	No. Days monitored
2023/24	T1 (u/s)	0.0	21.4	55.5	23.1	0.0	182
2022/23		0.0	10.4	79.9	9.7	0.0	154
2021/22		0.0	5.4	65.8	28.9	0.0	149
2002-2023 (post 400L/s)		0.1	17.5	60.3	21.8	0.3	3,616
1992-2002 (pre 400L/s)		0.0	20.4	60.8	18.8	0.0	1,629
2023/24	T2 (d/s)	0.0	13.2	52.7	33.0	1.1	182
2022/23		0.0	5.2	68.2	26.6	0.0	154
2021/22		0.0	4.7	54.4	40.9	0.0	149
2002-2023 (post 400L/s)		0.0	12.2	46.8	37.8	3.0	3,505
1992-2002 (pre 400L/s)		0.0	11.7	49.1	37.7	1.5	1,679

*Some historical data presented in this table differs to data previously published for the same time periods as a result of the method used to process the data.

Table 5 presents a summary of maximum daily water temperatures for the reported period from November to April. This table shows that the recorded maximum temperature percentage in excess of 20°C was higher at both site T1 (upstream) and T2 (downstream) (Figure 2) when compared to the previous monitoring year, but lower compared to 2021/22. The recorded maximum temperature percentage in excess of 20°C was marginally higher for site T1 and lower for T2 in comparison to the mean of the long-term 2002-2023 (post 400L/s) record.

Previously, there appeared to be a subtle warming trend in this data (Figure 5). Whether this is a reflection of climate change, or a change in upstream land use, or simply natural climatic cycles, is unclear. However, during the year under review the temperatures were still lower than other years, but warmer than 2022/23. This demonstrates how fluctuations occur from year to year. The value of continuing the water temperature monitoring component and how management of the scheme may need to take into account the actual incident temperatures is highlighted by this.

Temperatures over 25°C can significantly adversely affect trout and other freshwater fish communities, as well as being outside the tolerance range of some sensitive macroinvertebrate taxa. Prior to the 2005/06 monitoring period, 25°C had only ever been exceeded in the residual flow reach. For this monitoring period the temperature did not exceed 25°C at the upstream site. However, the temperature exceeded 25°C at the downstream site, but only for two consecutive days (Figure 6).

When water temperatures above 20°C occur for long periods of time, conditions can become stressful for certain species of fish and macroinvertebrates at various life stages, therefore, the duration of time that

water temperatures exceed this temperature is also important. Temperatures greater than 20°C continue to occur more downstream compared with upstream of Tariki weir.

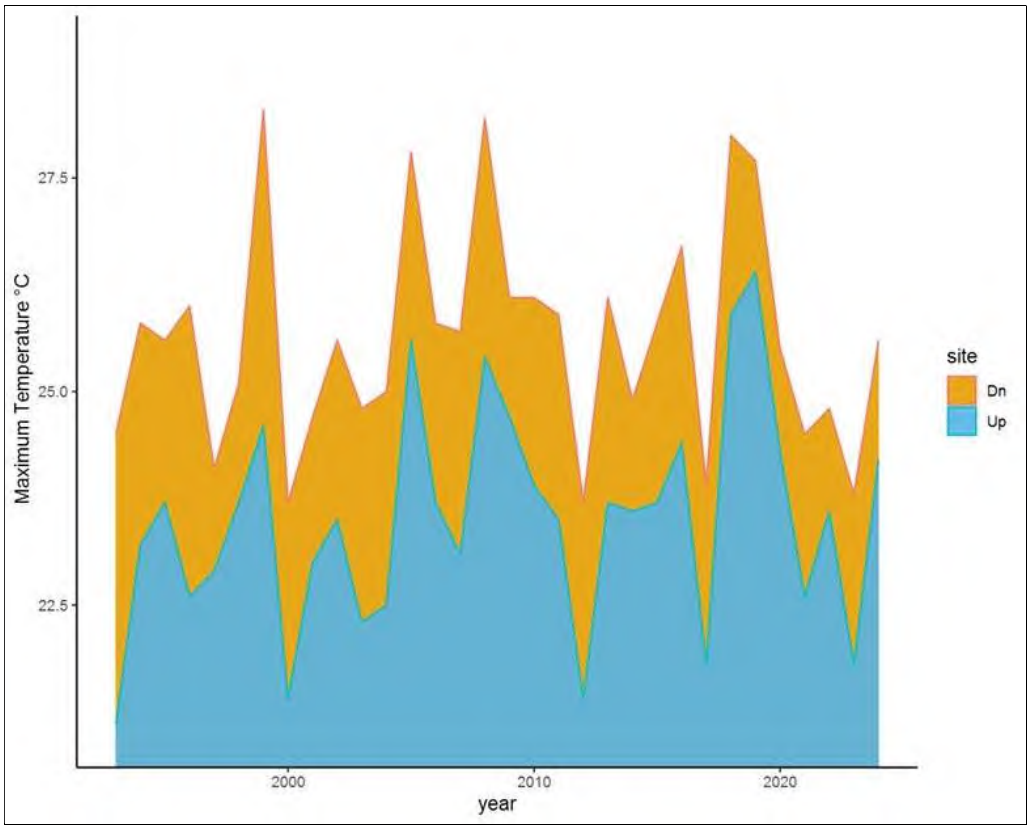

Figure 5 Maximum recorded water temperatures in each monitoring year upstream and downstream of Tariki weir (November 2023 – April 2024)

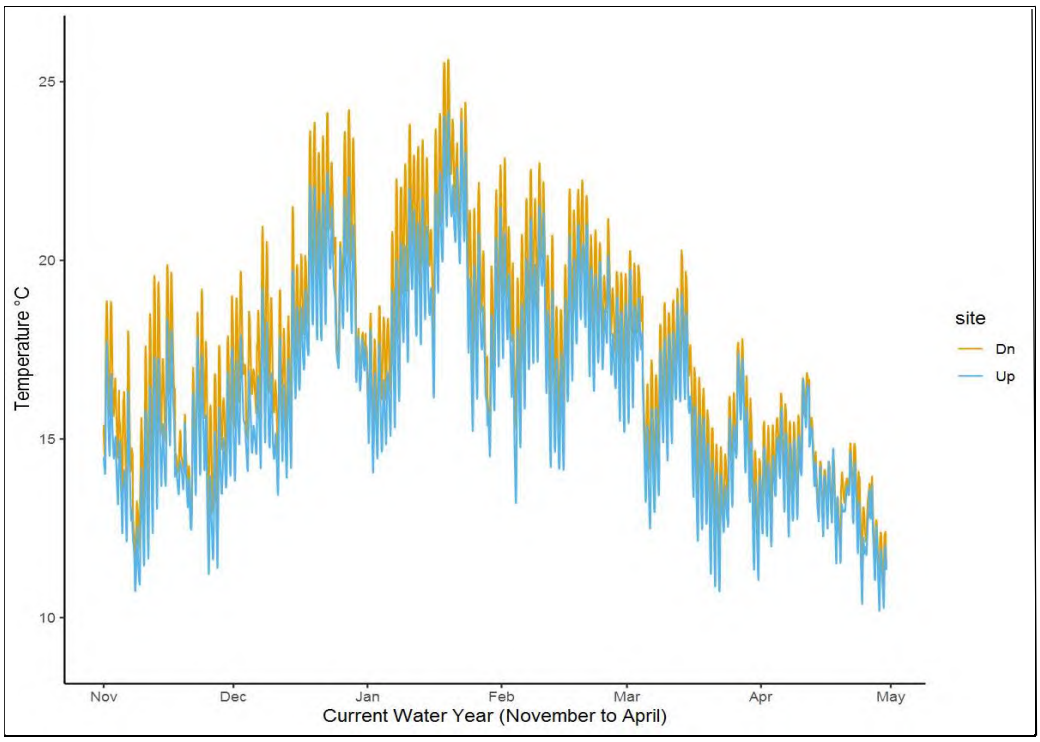

Figure 6 Actual water temperatures in the Manganui River showing diurnal differences for both upstream and downstream of Tariki weir (November 2023 – April 2024)

Table 6 Exceedance time (%) for Manganui River water temperatures recorded post residual flow increase (2002-2023) for comparison (upstream and downstream) (1 November-30 April)

	Percentage of observations above Temperature (°C) value									
Era [location]	**% > 8**	**% > 10**	**% > 12**	**% > 14**	**% > 16**	**% > 18**	**% > 20**	**% > 22**	**% > 24**	**% > 26**
2023/24 [T1 u/s]	100.00	100.00	95.25	75.73	49.48	25.98	9.92	1.65	0.08	0.00
2023/24 [T2 d/s]	100.00	100.00	98.46	85.52	63.41	40.41	20.00	7.42	0.97	0.00
2022/23 [T1 u/s]	100.00	99.86	98.42	84.02	47.47	15.03	2.70	0.00	0.00	0.00
2022/23 [T2 d/s]	100.00	100.00	99.29	93.12	64.47	34.85	10.73	2.77	0.00	0.00
2021/22 [T1 u/s]	100.00	100.00	99.24	92.84	67.50	32.33	11.28	1.56	0.00	0.00
2021/22 [T2 d/s]	100.00	100.00	99.97	94.41	76.39	45.30	20.64	6.66	0.34	0.00
2002-2022 (post 400L/s) [T1 u/s]	99.97	99.33	93.84	76.61	51.09	25.92	9.24	2.24	0.24	0.01
2002-2022 (post 400L/s) [T2 d/s]	99.99	99.66	96.38	83.97	62.67	38.14	18.24	6.39	1.51	0.14

*Some historical data presented in this table differs to data previously published for the same time periods as a result of the method used to process the data.

Since the 400L/s residual flow has been implemented, it has resulted in a reduced average monthly temperature difference, particularly noticeable during the month's most critical for temperature (January to March).

Figure 7 shows the trends in temperature differences pre 400L/s, post 400L/s, the previous monitoring period and the period under review. The largest difference generally tends to be during the month of January.

For further details on the analysis in temperature data pre and post the implementation of the 400L/s residual flow, please refer to the 2021/22 annual monitoring report (TRC, 2022).

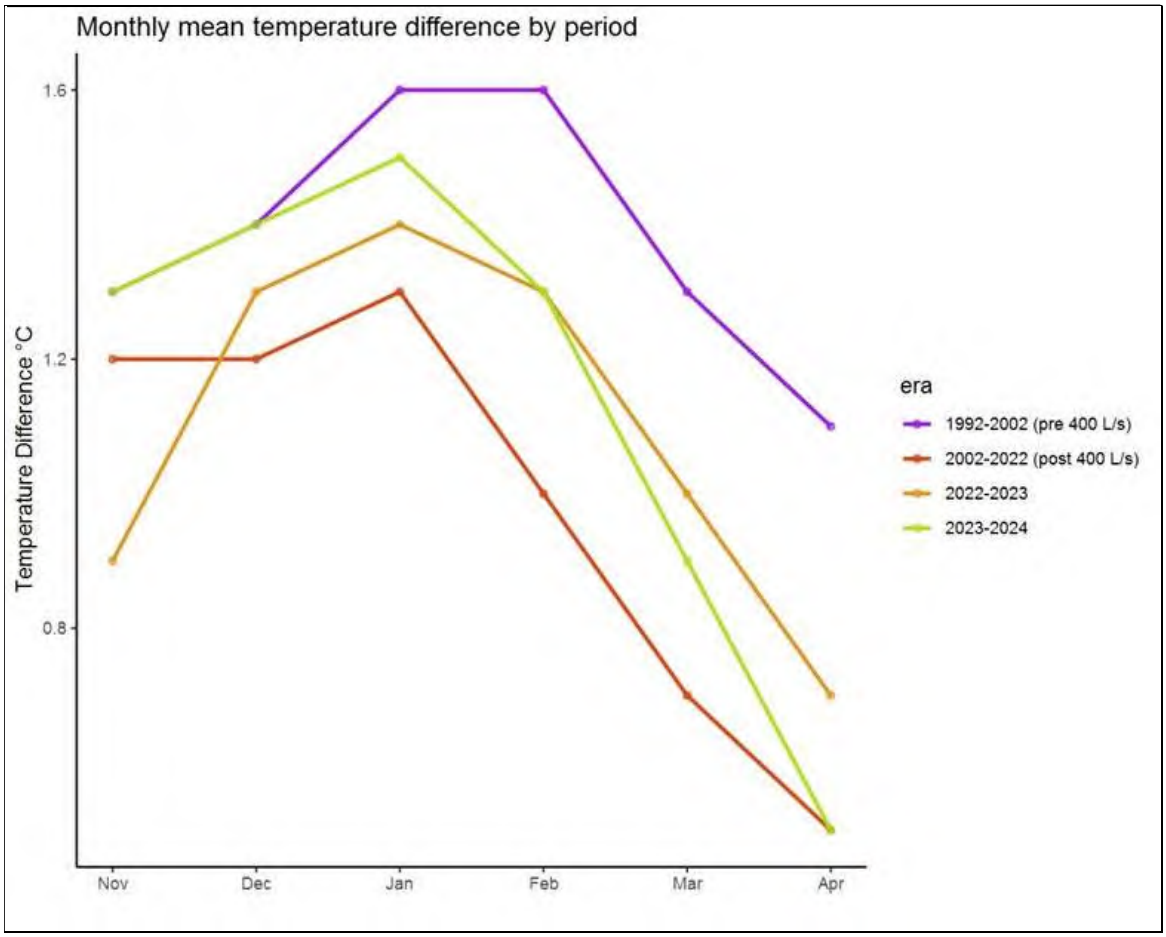

Figure 7 The average difference in mean monthly water temperatures between sites during different time periods (November-April)

2.1.4.2 Biomonitoring

When the consents for the Motukawa HEP scheme were renewed in 2001, part of the basis for determining the residual flow was to ensure the management objective of maintaining reasonable water quality with the residual flow reach was achieved. The biological monitoring for this scheme is conducted to help assess whether this is being attained.

Biomonitoring was conducted in relation to the Motukawa HEP scheme on one occasion during the monitoring period under review, to assess if the residual flow below the weir had had any detectable adverse effects on the water quality and macroinvertebrate habitat. The survey was undertaken on 5 April 2024. The Council's standard '400ml kick-sampling' technique was used at four established sites (Figure 8) to collect streambed macroinvertebrates from the Manganui River. Samples were processed to provide number of taxa (richness), MCI and SQMCI scores for each site.

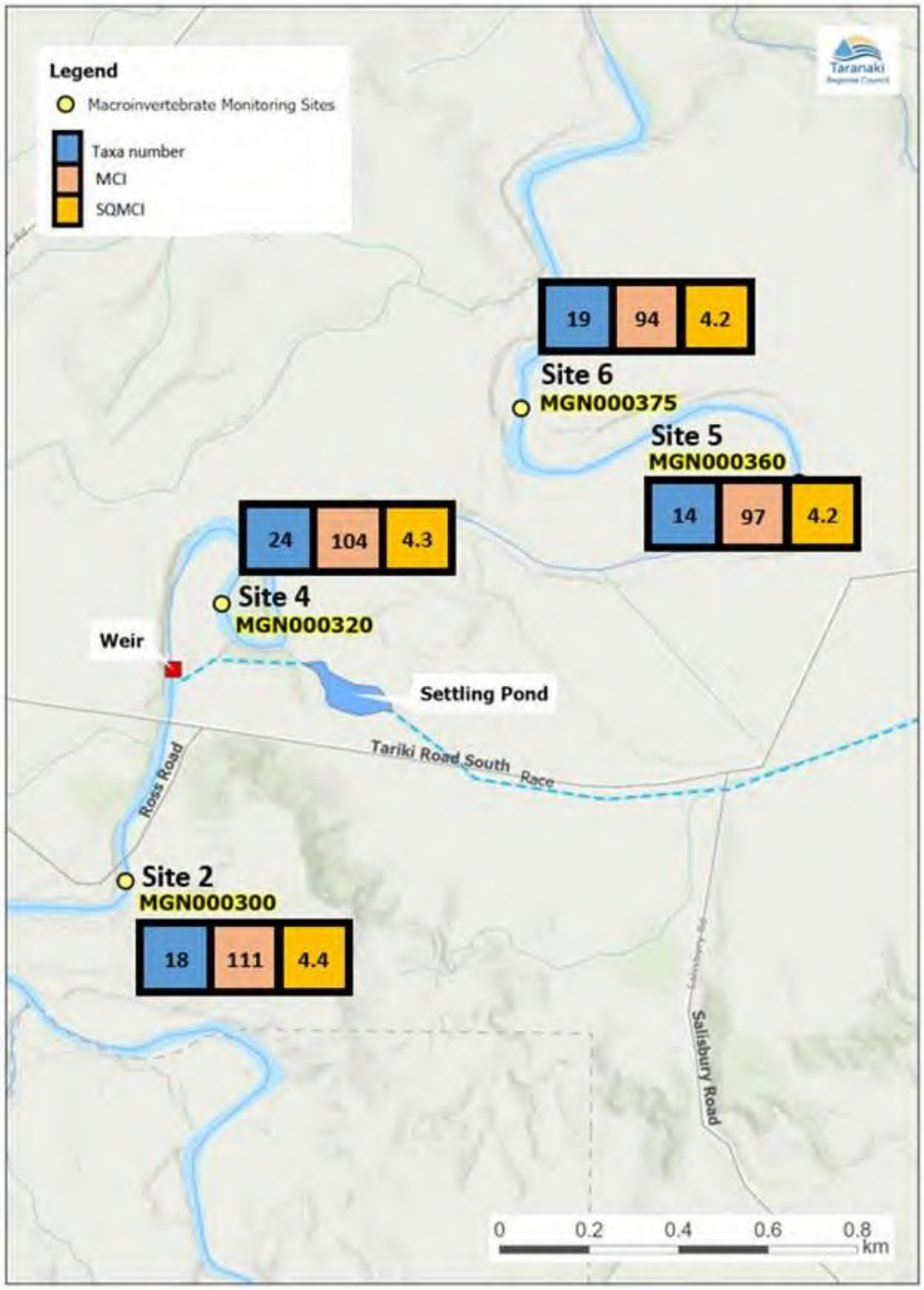

Figure 8 Macroinvertebrate index results recorded at sites sampled in relation to the Motukawa HEP scheme

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 accounts for 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).

This survey recorded low to moderate macroinvertebrate community richness. Site 2, 4, 5 and 6 recorded 18, 24, 14 and 19 respectively. Site 5 recorded its lowest taxa richness to date, with two fewer taxa than its previous lowest value. Compared to the previous survey results, taxa richness at sites 2, 5 and 6 decreased by four, three and two taxa respectively, but increased by six taxa at site 4. Compared to the historical

median, current taxa richness results were less at all sites, with a decrease of six, two, ten and four taxa at sites 2, 4, 5 and 6, respectively.

EPT taxa comprise the pollution sensitive Ephemeroptera (mayfly), Plecoptera (stonefly) and Trichoptera (caddisfly) insect groups. The number of EPT taxa at sites 2, 4, 5 and 6 were 10, 11, 6 and 8 respectively, with the percentage of EPT taxa declining in a downstream direction.

MCI scores at sites 2 and 4 were reflective of 'good' macroinvertebrate community health, while sites 5 and 6 recorded 'fair' macroinvertebrate health. Scores across all sites ranged from 94 to 111 units. These scores can be likely be attributed to the number of EPT taxa present at each site, as described above. Overall, the 'control' site 2 recorded an MCI score significantly greater than sites 5 and 6. Compared to the previous survey, current MCI scores decreased at all sites, with a non-significant decrease of six units at site 2, and a significant decrease of 14, 25 and 35 units, at sites 4, 5 and 6, respectively. In comparison to the historical median, the current MCI score at site 2 increased by 9 units, remained unchanged at site 5 and decreased by one and eight units at sites 4 and 6, respectively.

The SQMCI can be more sensitive to organic pollution compared with the MCI as it also takes into account taxa abundances. Similar to the MCI scores, but more minor, SQMCI scores decreased in a downstream direction. The scores were reflective of a 'fair' macroinvertebrate community health at all sites, with no significant difference amongst scores. The SQMCI scores recorded during this survey were all significantly less than that recorded in the previous survey. Compared to the historical median, current SQMCI scores were also less at all sites, although there were no significant differences.

In conclusion, the difference in MCI scores between sites 2 and 4 and sites 5 and 6 can be attributed to the higher number of ETP taxa present at sites 5 and 6. Despite this, SQMCI scores, which take taxa abundance into account, remained fairly consistent. Consequently, the relatively low abundance of EPT taxa at sites 2 and 4 had minimal impact on the SQMCI scores. Overall, the macroinvertebrate community composition showed no significant variation between sites, suggesting that water abstraction by the Motukawa HEP scheme did not have a significant negative effect on the macroinvertebrate community health of the Manganui River.

Copies of biomonitoring reports for this site are available from the Council upon request.

2.1.4.3 Fish monitoring

2.1.4.3.1 Motukawa Settling Pond Maintenance Fish Recovery

Resource Consent 10889-1 held by the Company authorises the maintenance dredging of Motukawa silt settling pond. Condition 8 of that consent required that a fish recovery plan be submitted and certified by the Council to manage any potential effects of maintenance work on any fish within the pond, including on juvenile lamprey. This plan was certified in March 2022.

During a routine compliance inspection, it was discovered that the Company had failed to notify works to undertake dredging at the settling pond as per the relevant consent condition. Contact was made with the Company and dredging was immediately halted, and notification was subsequently received. However, dredging did not recommence and has been postponed until further notice.

2.1.4.3.2 Residual flow and fish pass

One of the most significant issues in relation to the water abstraction and associated weir on the Manganui River is the provision for fish habitat and fish passage through the residual flow reach and past the weir at Tariki Road. The fish pass (Photo 1) and residual flow of 400L/s have been designed to provide:

- Passage for trout through the critical reach between the weir and the Mangamawhete Stream (8km downstream); and

- Some native fish habitat and passage.

Improved fish diversity and abundance are key aspects for determining the success of the fish pass and residual flow with respect to the objectives above however, key native indicator species, including redfin bully and torrentfish, also provide important information on the successful passage through the residual flow reach and past the weir. Previous annual reports detail the results of numerous fish surveys undertaken in relation to the Motukawa HEP scheme, and these are useful reference documents, providing a valuable historical perspective.

Surveys have recorded longfin eel, shortjaw kokopu, redfin bully and inanga upstream of the weir. However, torrentfish, which have been recorded at the bottom of the fish pass, have never been recorded upstream of the weir. This indicates that most fish species expected to be present at this altitude and distance inland have been able to use the fish pass to continue upstream. Fish surveys undertaken for the Company by a consultant in 2020 and 2021 found an absence of inanga and torrentfish upstream and downstream of Tariki weir.

This is an example of a comprehensive fish pass which takes into consideration the size of the river as well as the species that would be expected at this fish pass consideration in other catchments. While it is the best example of a fish pass in the region, it must undergo continual maintenance to remain effective for all species that would be expected to use it. River flows also have the effect of altering some of the steps within the pass.

Photo 1 Photos of the fish pass, which has an approximate 90 degree bend midway

Note: Left photo facing upstream and right photo facing downstream towards the Manganui River below Tariki weir (April 2024).

Previously, work to remediate the residual leakage from the sluice gate was undertaken to address elvers being attracted into the sluice canal. This included the installation of a perched pipe outfall. The aim of this pipe is to remove the attractant flow from the sluice channel (Photo 2 and 3).

No fish surveys were completed during this reported period, with the last survey undertaken and reported on during the 2017/18 monitoring period. Once the renewal of the consents process has been completed, consideration will be given with regard to fish surveys.

Photo 2 Old sluice gate leak (left (2019-2020)) and race (right (2022/23))

Photo 3 Installed perched pipe at outlet of sluice channel aimed at removing attractant flow for climbing fish (April 2022)

2.1.4.3.3 Lake Ratapiko Spillway Fish Pass

The Company maintains a small fish pass on the south side of the lake at the spillway (Photo 4). The fish pass is a small pipe with a small water supply from a hose.

It would still be beneficial to provide a residual flow to the stream below the spillway to improve downstream habitat, and to consider installing an elver trap to replace the pass as it would prevent potential immediate predation at the outlet into the lake. These options may be considered during the consenting renewal process for the scheme.

The Company made improvements to the pass in October 2020 in order to aid in directing juvenile eels to the entrance of the elver pass as opposed to the toe of the spillway. However, competing attractant flows from the plunge pool at the base of the spillway may still draw juvenile eels past the elver pass, where they would then need to climb the face of the spillway. It is unknown if the spillway could be successfully climbed by juvenile eels.

There have been occasions previously where adult eels were found in the plunge pool during a routine compliance inspection, and the Company transported them back to the lake. It is unknown what direction the eels were migrating. During the monitoring period under review there were no eels observed in the plunge pool during inspections.

Photo 4 Fish pass at spillway (top right). Fish pass inlet (top left). Fish pass approach through spillway (bottom left (2023/24))

2.1.4.3.4 Adult eel and elver transfers

Special conditions in Consents 3372-2 (Condition 3) and 3373-2 (Condition 8) require the Company to provide for the passage of elvers (both consents) and adult eels (Consent 3373)-2. An elver pass using a trap and transfer system similar to that implemented successfully at the Pātea Dam was installed at the power

station (Consent 3372-2) late in the 2001/02 summer. Elver enter a pipe carrying an attractant flow, which leads to the trap (Photo 5). Following modifications, this trap has operated successfully since the 2002/03 elver migration period, with elvers transferred weekly to a location above the Manganui River head works.

Photo 5 Attractant flow and piping to the elver trap (left (2023)). Elver trap at the station (right (2019))

The Company provided records in terms of weight of elvers and dates of transferral. These are presented for the 2023/24 elver migration season (December to March) in Figure 9 together with previous year's data in Table 7. During most years elvers begin to appear at the tail race at the start of December and 2023/24 was consistent with this.

With regard to the numbers of elvers transferred, it can be difficult to accurately calculate the total number, from the recorded weight, as the average weight of the individual elvers appears to vary between years. Subsamples of elvers from the Motukawa elver trap have been weighed and counted during two separate years, with one count finding 1,350 elvers per kg, and the other finding 950 elvers per kg. Table 7 shows how many elvers were transferred during the reported period, using both conversion figures, and provides a comparison with previous years.

Table 7 Elver transfer data collected since the 2002/03 monitoring period

Monitoring year	Total weight of elvers transferred (kg)	Estimated number of elvers transferred (1kg = 1,350 elvers (2003 count))	Estimated number of elvers transferred (1kg = 950 elvers (2006 count))
2002/03	33.7	45,495	-
2003/04	47.7	64,395	-
2004/05	69.5	93,825	-
2005/06	67.5	91,125	64,125
2006/07	23.18	31,293	22,021
2007/08	48.55	65,542	46,122
2008/09	60.65	81,878	57,618

Monitoring year	Total weight of elvers transferred (kg)	Estimated number of elvers transferred (1kg = 1,350 elvers (2003 count))	Estimated number of elvers transferred (1kg = 950 elvers (2006 count))
2009/10	9.71	13,109	9,225
2010/11	45.57	61,520	43,291
2011/12	8.35	11,273	7,932
2012/13	14.15	19,103	13,442
2013/14	8.61	11,624	8,179
2014/15	17.23	23,261	16,368
2015/16	37.01	49,957	35,154
2016/17	30.21	40,784	28,699
2017/18	48.99	66,141	46,543
2018/19	26.44	35,694	25,118
2019/20	45.66	61,641	43,377
2020/21	25.44	34,344	24,168
2021/22	63.82	86,157	60,629
2022/23	34.58	46,683	32,946
2023/24	59.69	80,582	56,706
Mean 2008-2023	**31.77**	**42,878**	**30,173**

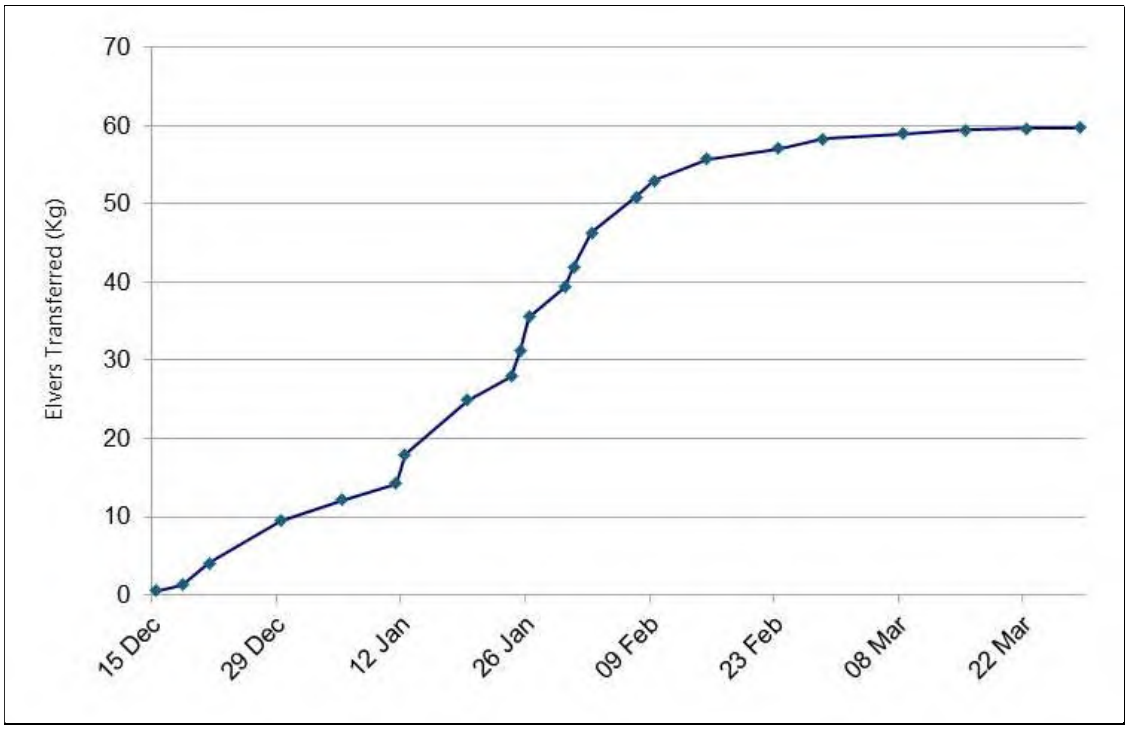

Figure 9 Cumulative weight of elvers transferred from the Motukawa Power Station during the 2023/24 period

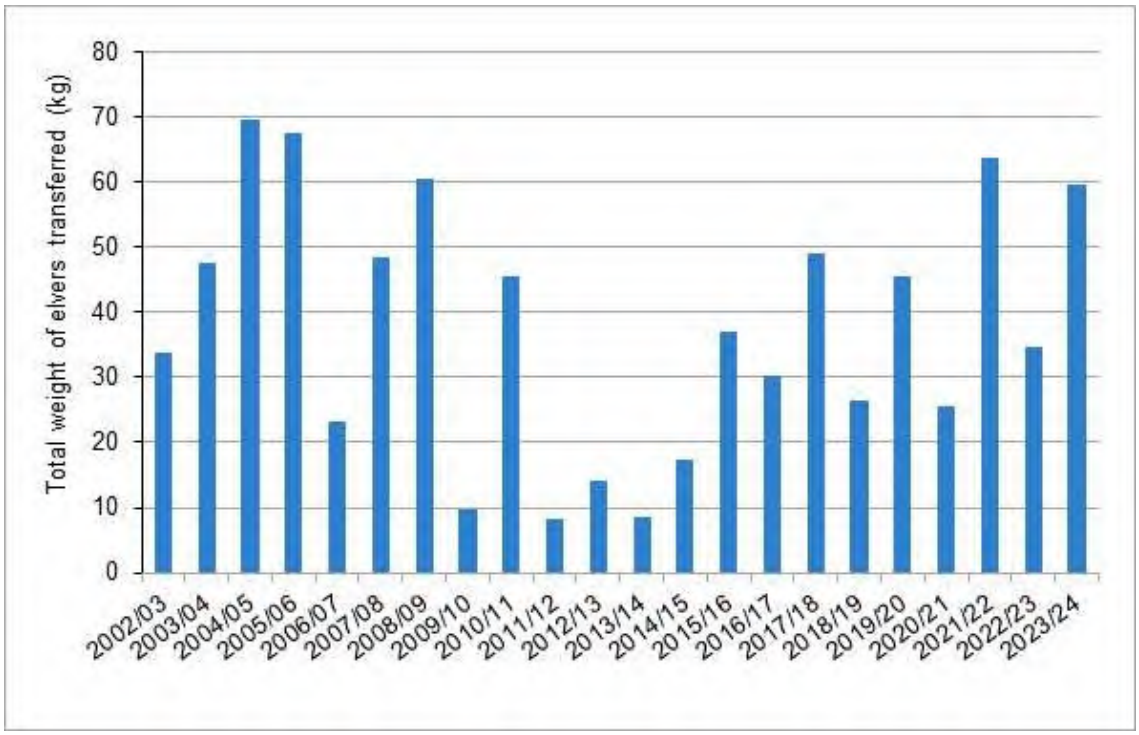

Figure 10 Elver transfer data in kilograms for the monitoring years to date

The elver run in the 2023/24 period started with the first transfer occurring on 15 December 2023 and the last transfer occurring on the 28 March 2024 (Figure 9). The total weight of elvers transferred during this period totalled 59.69kg (Figure 10).

This amount is substantially higher than the previous year (34.58kg). Likewise, it is well above the long-term average for the years 2002-2023 (31.77kg). The number of elvers arriving at the trap is highly variable between years (Figure 10).

The elver trap was visited by Council staff on three occasions during the reported period. The elver trap is unlikely to be operating to its full potential, as in previous monitoring periods. There are several attractant flows (Photo 6) that direct elver to dead ends away from the trap, and when power generation ceases, the spat ropes leading into the trap tend to be out of the water. Fish may continue to make upstream movements during lower flows to find suitable habitat, therefore, it is important that the fish trap is operating efficiently at all water levels. Otherwise, when the flow is lowered, the greater attractant flows seen in (Photo 6) may lead elver away from the trap. As the consenting process continues, consideration for these ongoing issues are likely to be addressed.

Photo 6 Left photo - Two attractant flows that direct fish away from the trap. One small tributary (right) and one coming from the station (beside the concrete pillar to the right (2023/24)).

Right photo - there is a third residual flow from the station outlet pipe directly below the building (2023/24)

Photo 7 Showing the location of the elver trap below the station (2023/24)

Adult eels migrate down rivers to the sea in autumn and have been known to congregate at the Ratapiko Dam which dams the Mako Stream and at the penstocks leading to the power station. The facilitation of

passage for adult eels over the Mako dam is required under special condition 8 of Consent 3373-2. During the period under review, the Company's staff attempted to transfer adult eels from the lake. The results show that 3 longfin eel were transferred, more than the previous period of 1 longfin eel.

The Company has a net in place each year at the start of the migrating season (autumn) and removed at the end of it. While the net is in place it is checked and emptied regularly and the eels transferred downstream. It is understood that commercial eeling does occur within Taranaki which likely influences the number of migrating adult eels caught from year to year.

2.2 Riparian planting

As per special condition 8 of Consent 3369-2, the consent holder donates annually to the Taranaki Tree Trust ($6,000) as a means of mitigating the effects of the abstraction from the Manganui River. Funding on the Manganui Catchment was initially targeted at Lake Ratapiko and the Rumkeg Creek. It was then expanded to include plantings in the wider Manganui Catchment.

At the time of compiling this report, eight landholders in the Manganui Catchment had applied to be subsidised 50% of the cost of plants planted within the catchment for riparian protection in the 2023/24 period, with just over $16,700 available to them at the start of the period. It is expected that there will be approximately $15,200 available for the 2024/25 period following the next contribution from the Company.

2.3 Stakeholders' meeting

As a requirement of special conditions in all of the Motukawa HEP scheme consents, an annual meeting of interested stakeholders is held to discuss any matters relating to the exercise of these consents, but particularly monitoring programme design, implementation and interpretation, in order to facilitate ongoing consultation.

Previously, stakeholder meetings have only been held when particular issues warranted it. No such issues were raised during the reported period. The Company has informed the Council that they have continued to engage with stakeholders as part of the ongoing consenting process for the scheme. The Council has not been approached by stakeholders with queries during this period or with requests for a stakeholder meeting. Should any stakeholder have any issues or wish to have a meeting they can formally request it.

2.4 Incidents, investigations, and interventions

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with 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 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 2023/24 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 8 Incidents, investigations, and interventions summary table

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
29/05/24	During a routine compliance inspection it was observed that the Company had failed to notify works to undertake dredging at the settling pond, as per the relevant consent condition. Consent 10889-1	N	N/A	Contact was made with the Company and dredging was immediately halted, and notification was subsequently received. An explanation was provided by the Company and accepted by the Council. No further action.

3. Discussion

3.1 Discussion of site performance

Several consents contain special conditions requiring the Company to monitor and forward abstraction, discharge and water level data to the Council at three monthly intervals. This data was forwarded as required during the monitoring year under review and checked for continuity of the data record, and compliance with their respective limits.

There was good compliance with set flows and water levels, with no incidents occurring that warranted enforcement action. The Company proactively notified the Council of any issues as well as undertook steps to best resolve the issues.

Compliance with flows and water level requirements was confirmed through inspections, including hydrological gaugings where appropriate. These inspections also confirmed compliance with other requirements such as the operation of an elver trap at the station and elver pass at the Mako Dam spillway.

There was however, a non-compliance with regard to a lack of notification prior to dredging the settling pond (Consent 10889-1). Once the Company was contacted, and an explanation provided, the dredging immediately halted and notification was subsequently received. Noenforcement action was taken. Dredging did not recommence during 2023/24 and has been postponed until further notice.

The Company carries out an annual walk-over survey of the race. This was carried out during the monitoring period, and no major issues were noted.

Overall, in terms of environmental compliance with the Motukawa HEP scheme consent conditions, the performance of the Company remained at a high standard for the 2023/24 period.

3.2 Environmental effects of exercise of consents

Continuous water temperature monitoring is performed in the Manganui River upstream and downstream of the Tariki weir from November to April for each monitoring year. Monitoring indicated that temperatures continued to show a general significant increase below the weir compared to upstream temperatures. The upstream site has previously indicated that the catchment may be warming (Figure 5). However, during the most recent periods the temperatures have shown a slight cooling trend. This indicates that fluctuations and variations continue to occur during the different monitoring periods.

Average monthly water temperatures were similar to historical means for each month when compared to the long term average. Furthermore, the number of days that experienced a maximum temperature in excess of 25°C was below average both upstream and downstream. The upstream site did not experience temperatures above 25°C however, the downstream exceeded 25°C on two consecutive occasions during the monitored months.

The percentage of maximum daily water temperatures greater than 20°C at both the upstream and downstream sites were higher this monitoring year, compared to 2022/23, and marginally higher than the long-term average for 2002-2022. An increase to 9.92% at the upstream site for 2023/24 compared to 2.70% for 2021/22 and 9.24% for 2002-2022; and 20.00% at the downstream site for 2023/24 compared to 10.73% for 2022/23 and 18.24% for 2002-2022 (Table 6). When comparing figures, it should be noted that 2022/23 had overall lower than average temperatures due to the meteorological conditions during the summer period.

Temperatures over 25°C can adversely affect trout and other freshwater fish communities and potentially outside the tolerance range of some sensitive macroinvertebrate taxa. Furthermore, temperatures over 20°C,

for extended periods, can put stress on fish. No fish kills were reported in the residual flow reach of the Manganui River, although this is not actively monitored.

The mean temperature differences between upstream and downstream recorded in the 2023/24 period were in line with the mean temperature difference since 2002, when the residual flow limit was increased to 400L/s.

Due to an extended period of natural to near natural flows in the residual flow reach in early 2010, it was possible to assess what impact the main abstraction has on the water temperatures in this reach. This showed that even though the Manganui River was running slightly warmer at that time than was typical, the temperatures in the residual flow reach were reduced by this natural flow. It was also clear that temperatures which can negatively affect stream biota (>20°C) are less likely to occur under the more natural flow, and that their increased occurrence in the residual flow reach is directly related to the reduced flow.

The macroinvertebrate survey demonstrated that overall, community composition showed no significant variation between sites. Thereby suggesting that water abstraction by the Motukawa HEP scheme is not currently having a significant negative effect on the macroinvertebrate community health of the Manganui River.

Improved fish diversity and abundance are key aspects for determining the success of the fish pass and residual flow with respect to fish passage in the residual flow reach as well as providing some native fish habitat. Key native indicator species, including the redfin bully and torrentfish, also provide important information on the successful passage through the residual flow reach and past the weir. Without any new data it is not possible to determine the effectiveness of the fish pass. Fish surveys will be considered once the consenting renewal process has been completed.

Overall, results indicate that with respect to the management objectives for which the residual flow limit was developed, reasonable water quality is being maintained, and passage for trout and some (but not all) native fish is likely being achieved.

3.3 Evaluation of performance

A tabular summary of the Company's compliance record for the year under review is set out in Table 9.

Table 9 Summary of performance for Consent 3369-2

Purpose: To take and use up to 5,200L/s of water from the Manganui River		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Maintenance of residual flow of 400L/s	Inspections fish pass, including water levels in pass; gaugings	Yes
2. Residual flow passes through fish pass within 12 months of the granting of this consent	Inspection; Implemented in 2002	Yes
3. Install and operate measuring device for monitoring abstraction rate and forward to Council	Receipt and review of Company data every three months	Yes
4. Cease abstraction if flow in Waitara is ≤ 5000L/s	Council to notify if Waitara flow is less than threshold	N/A
5. Pulse flows released if weir has not overtopped for 30 days	Notification received of low flows and too little water in the system to meet all conditions and to top the weir. Considered compliant due to this being out of the Company's control. Rainfall alleviated the situation within a few days of notification.	Yes
6. (a) Install race water level control	Receipt and review of Company data every three	Yes

Purpose: To take and use up to 5,200L/s of water from the Manganui River		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
system to manage inflow from Manganui River (b) Avoid flooding of farmland (c) Emergency power source	months	
7. Maintain 150L/s in race during maintenance	Notification by Company	Yes
8. Donation to Taranaki Tree Trust	Confirmation with Council finance department that donation received	Yes
9. Meeting with stakeholders	Meeting conducted when required	Yes (refer to section 2.3)
10. Optional change/cancellation of conditions by consent holder	Not exercised	N/A
11. Optional review provision re environmental effects	No review undertaken	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

N/A = not applicable

Table 10 Summary of performance for Consent 3371-2.1

Purpose: To divert and use up to 8,000L/s of stormwater runoff and tributaries draining in to race and Lake Ratapiko		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. (a) Install race water level control system (b) Emergency power source	Installed in 1998	Yes
2. Management of maximum race water levels at 4 sites to avoid flooding of farmland	Receipt and review of Company data every three months	Yes
3. Install and survey stage boards for visual check on race levels	Installed in 1995; Inspections of race	Yes
4. Five yearly survey of race to identify maintenance requirements	On agreement, yearly inspection and findings provided to Council	Yes
5. Install and operate measuring device to measure water levels and forward to Council	Receipt and review of Company data every three months	Yes
6. Meeting with stakeholders	Meeting conducted when required	Yes (refer to section 2.3)
7. Bond required if flooding occurs between May 1999 and April 2000		N/A
8. Review of conditions if there is flooding of adjacent farmland	Not exercised	N/A
9. Optional change/cancellation of conditions by consent holder	Not exercised	N/A
10. Optional review provision re environmental effects	No review undertaken	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

N/A = not applicable

Table 11 Summary of performance for Consent 3372-2

Purpose: To discharge up to 7,787L/s of water from the Motukawa HEP into the Makara Stream		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Cease abstraction if flow in Waitara is ≤ 5000L/s	Council to notify if Waitara flow is less than threshold	N/A
2. Install and operate measuring device to measure discharge of water to Makara St and forward to Council	Receipt and review of Company data every three months	Yes
3. Install, maintain and monitor elver passage facility within 6 months of granting of consent	Installed in 2001/02 monitoring year; Inspections; receipt and review of Company data	Yes
4. Meeting with stakeholders	Meeting conducted when required	Yes (refer to section 2.3)
5. Optional change/cancellation of conditions by consent holder	Not exercised	N/A
6. Optional review provision re environmental effects	No review undertaken	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

N/A = not applicable

Table 12 Summary of performance for Consent 3373-2

Purpose: To dam the Mako Stream to form Lake Ratapiko		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Within 6 months of granting consent, provide a SEED review	Received in 2002	Yes
2. Maintain and operate a safe dam		Yes
3. Place and maintain structure on top of lowered spillway crest to increase lake storage	Upgrade in 2003/04 with spring tip flashboard	Yes
4. Manage structure in condition 4 and lake level so as to avoid flooding of farmland	Receipt and review of Company data every three months	Yes
5. Minimum lake water level of 194masl except during maintenance	Receipt and review of Company data every three months	Yes
6. Maximum lake water level of 198.7masl	Receipt and review of Company data every three months	Yes
7. Install, maintain and monitor elver /eel passage facility over spillway within 6 months of granting of consent	Inspections Installed in 2003/04; Delays approved by Council	Yes
8. Install and operate measuring device to measure lake water level and forward to Council	Receipt and review of Company data every three months	Yes
9. Meeting with stakeholders	Meeting conducted when required	Yes (refer to section 2.3)
10. Optional change/cancellation of conditions by consent holder	Not exercised	N/A
11. Optional review provision re environmental effects	No review undertaken	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

N/A = not applicable

Table 13 Summary of performance for Consent 5080-1

Purpose: To erect, place, use and maintain the weir and various structures in Manganui River		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Design, install, maintain and monitor structure at weir for fish passage	Inspections; biomonitoring	Yes
2. Fish pass to be constructed within 12 months	Completed in 2002	Yes
3. Install and operate a light barrier within 6 months to divert fish from intake	Research found light barrier to be ineffective. Electric fields have been reinstalled at intake and forebay in 2010-2014 period. Extension of time limit approved	Yes
4. Meeting with stakeholders	Meeting conducted when required	Yes (refer to section 2.3)
5. Optional change/cancellation of conditions by consent holder	Not exercised	N/A
6. Optional review provision re environmental effects	No review undertaken	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

N/A = not applicable

Table 14 Summary of performance for Consent 5082-1

Purpose: To discharge, under emergency conditions, up to 2,000L/s of overflow water from the Mangaotea Aqueduct into the Mangaotea Stream		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. That the discharge shall occur after compliance with condition 2 of 5081 is achieved	No discharges in the monitoring period	N/A
2. Definition of emergency conditions	When local stormwater runoff to the race is required to be discharged to Mangaotea Stream in order to avoid the race flooding adjoining land	N/A
3. Manage discharge to avoid or minimise flooding of farmland and roads below discharge	No discharges in the monitoring period	N/A
4. Set aside $600 annually for maintenance of the flood capacity of the Mangaotea Stream below the discharge, and make funds available to landowners for works	Money continues to be made available each year	Yes
5. Optional change/cancellation of conditions by consent holder	Not exercised	N/A
6. Meeting with stakeholders	Meeting conducted when required	N/A (refer to section 2.3)
7. Optional review provision re environmental effects	No review undertaken	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**N/A** **N/A**

N/A = not applicable

Table 15 Summary of performance for Consent 5084-1

Purpose: To discharge up to 55,000L/s of HEP generation water, during adverse weather conditions, from Lake Ratapiko into the Mako Stream		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Prepare a contingency plan for managing discharge so as to avoid or minimise damage to property downstream	Reviewed contingency plan received in 2004/05 monitoring year	Yes
2. Exercise consent in accordance with contingency plan	Not exercised this monitoring year	N/A
3. Meeting with stakeholders	Meeting conducted when required	N/A (refer to section 2.3)
4. Optional change/cancellation of conditions by consent holder	Not exercised	N/A
5. Optional review provision re environmental effects	No review undertaken	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**N/A** **High**

N/A = not applicable

Table 16 Summary of performance for Consent 5085-1

Purpose: To disturb the bed of Lake Ratapiko for maintenance and repairs associated with HEP generation		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Notify the Council 48 hours prior to commencement of disturbance activities	No notifications received. No disturbance undertaken	N/A
2. Best practicable option		N/A
3. Meeting with stakeholders	Meeting conducted when required	N/A (refer to section 2.3)
4. Optional change/cancellation of conditions by consent holder	Not exercised	N/A
5. Optional review provision re environmental effects	No review undertaken	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**N/A** **N/A**

N/A = not applicable

Table 17 Summary of performance for Consent 5087-1

Purpose: To take and use up to 7,787L/s of water from Lake Ratapiko		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Minimum lake water level of 194masl	Receipt and review of Company data every three months	Yes
2. For lake maintenance, the drawdown of the level will occur gradually over 7 days and notify the Council and Fish and Game	No such works undertaken	N/A
3. Maximum lake water level under normal operating conditions does not exceed 198.7masl	Receipt and review of Company data every three months	Yes
4. Manage lake levels to avoid or minimise flooding of land	Review data	Yes
5. Meeting with stakeholders	Meeting conducted when required	Yes (refer to section 2.3)

Purpose: To take and use up to 7,787L/s of water from Lake Ratapiko		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
6. Optional change/cancellation of conditions by consent holder	Not exercised	N/A
7. Optional review provision re environmental effects	No review undertaken	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

N/A = not applicable

Table 18 Summary of performance for Consent 5088-1

Purpose: To discharge up to 2,000L/s of water from the surge chamber of the Motukawa power station during maintenance periods into an unnamed tributary of the Makara Stream		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Prepare contingency plan within six months	Reviewed contingency plan received in 2004/05 monitoring year	Yes
2. Exercise consent in accordance with contingency plan		Yes
3. Notify the Council 48 hours prior to the discharge and adopt best practicable option	No notifications received	N/A
4. Meeting with stakeholders	Meeting conducted when required	Yes (refer to section 2.3)
5. Optional change/cancellation of conditions by consent holder	Not exercised	N/A
6. Optional review provision re environmental effects	No review undertaken	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

N/A = not applicable

Table 19 Summary of performance for Consent 6388-1

Purpose: To divert and use water in the Motukawa Race		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Best practicable option	Inspections	Yes
2. Exercise of consent shall be undertaken generally in accordance with documentation submitted with application	Inspections	Yes
3. Notify the Council 7 days prior to the exercise of consent	Notification received 21 February 2006	Yes
4. Consent lapse period of 10 years	Consent has been exercised	N/A
5. Optional review provision re environmental effects	No review undertaken	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

N/A = not applicable

Table 20 Summary of performance for Consent 6390-1

Purpose: To impound water behind a dam on the Motukawa Race		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Best practicable option	Inspections	Yes
2. Exercise of consent shall be undertaken generally in accordance with documentation submitted with application	Inspections	Yes
3. Notify the Council 14 days prior to the construction of dam and turbine unit in the race	Notification received 13 October 2005	Yes
4. The intake is appropriately screened to avoid entrapment of freshwater fauna	Screens used found to be too narrow for operation. Change of consent conditions granted and new screens installed in July 2006	Yes
5. On 3 occasions between Nov and Feb, cease generation and open bypass valve for 12 hours to allow trout passage	It has been agreed by Council and Fish and Game that this is no longer required, as the bypass valve will be permanently running from November to February	N/A
6. Company must monitor effectiveness of bypass valve for first 6 bypass events and forward information to Council and Fish and Game	It has been agreed by Council and Fish and Game that this is no longer required, as the bypass valve will be permanently running from November to February	N/A
7. Review conditions of consent if monitoring of bypass events show a significant trout accumulation	Not exercised	N/A
8. Management of race water level to avoid or minimise flooding of adjacent farmland	Receipt and review of Company data every three months	Yes
9. Consent lapse period of 10 years	Consent has been exercised	N/A
10. Optional review provision re environmental effects	No review undertaken	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **High**

N/A = not applicable

Table 21 Summary of performance for Consent 10889-1

Purpose: To dredge the bed of a settling pond in the Motukawa water race		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. The removal of sediment by dredging the bottom of the sediment pond shall only occur within the area shaded yellow on the attached plan (Appendix 1)	Inspections, data review	Yes
2. Notify the Council 48 hours prior to the commencement of each dredging season (e.g. yearly)	Notification not received prior to the start of dredging. Dredging started then immediately halted.	No (refer section 2.4)
3. Area and volume of pond bed and bank disturbed shall, so far as is practicable, be minimised and any areas which are disturbed shall, so far as is practicable, be reinstated	Inspections as necessary	Yes
4. No stockpiles, sludge, sediment, trees/vegetation or surplus material to be left in a position where it may enter a waterbody	Inspections as necessary	Yes
5. At all times during dredging activities a silt curtain shall be installed at the outlet of the pond to prevent sediment entering the race	Inspections as necessary	Yes

Purpose: To dredge the bed of a settling pond in the Motukawa water race		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
6. Limit of suspended solids immediately downstream of silt curtain	Inspections as necessary	N/A
7. All earthwork areas, including pond banks and approaches shall be stabilised as soon as is practicable immediately following completion of soil disturbance activities	Inspections as necessary	N/A
8. Implement a fish recovery plan and provide records within 20 days	Plan received. Inspections, data review	N/A
9. Consent lapse period of 5 years	Consent has been exercised	N/A
10. Optional review provision re environmental effects	Next review June 2026	N/A
Overall assessment of environmental performance and compliance in respect of this consent Overall assessment of administrative performance in respect of this consent		**High** **Good**

N/A = not applicable

Table 22 Evaluation of environmental performance over time

Year	Consent numbers	High	Good	Improvement req	Poor
2019/20	3369-2, 3371-2.1, 3372-2, 3373-2, 5080-1, 5081-1, 5082-1*, 5084-1, 5085-1*, 5086-1, 5087-1, 5088-1, 6381-1, 6388-1, 6390-1, 6391-1*, 10889-1, 1166-3*	14	-	-	-
2020/21	3369-2, 3371-2.1, 3372-2, 3373-2, 5080-1, 5081-1, 5082-1*, 5084-1, 5085-1*, 5086-1, 5087-1, 5088-1, 6381-1, 6388-1, 6390-1, 6391-1*, 10889-1, 1166-3*	14	-	-	-
2021/22	3369-2, 3371-2.1, 3372-2, 3373-2, 5080-1, 5081-1, 5082-1*, 5084-1, 5085-1*, 5086-1, 5087-1, 5088-1, 6381-1, 6388-1, 6390-1, 6391-1*, 10889-1, 1166-3*	14	-	-	-
2022/23	3369-2, 3371-2.1, 3372-2, 3373-2, 5080-1, 5082-1*, 5084-1*, 5085-1*, 5087-1, 5088-1, 6388-1, 6390-1, 10889-1	10	-	-	-
2023/24	3369-2, 3371-2.1, 3372-2, 3373-2, 5080-1, 5082-1*, 5084-1*, 5085-1*, 5087-1, 5088-1, 6388-1, 6390-1, 10889-1	10	-	-	-

*Consents environmental performance N/A

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

3.4 Recommendations from the 2022/23 Annual Report

In the 2022/23 Annual Report, it was recommended:

1. THAT in the first instance, monitoring of the Motukawa HEP scheme in the 2023/24 year continue at the same level as in 2022/23.
2. THAT should there be issues with environmental or administrative performance in 2023/24, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.
3. THAT through the upcoming consenting process the specified locations listed in Consent 6390-1 (condition 8) are consistent with 3371-2 (condition 2).

Recommendation 1 was implemented in the 2023/24 monitoring year and recommendation 2 was not required to be implemented. Recommendation 3 is currently being addressed during the consenting renewal process.

3.5 Alterations to monitoring programmes for 2023/24

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

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

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

It is proposed that for 2024/25 monitoring programme for the Motukawa HEP scheme remains unchanged.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the site(s) in question. The Council reserves the right to subsequently adjust the programme from that initially prepared, should the need arise if potential or actual non-compliance is determined at any time during 2024/25.

4. Recommendations

1. THAT in the first instance, monitoring of the Motukawa HEP scheme in the 2024/25 year continue at the same level as in 2023/24.
2. THAT should there be issues with environmental or administrative performance in 2024/25, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

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.
Bund	A wall around a tank to contain its contents in the case of a leak.
Cumec	A volumetric measure of flow - 1 cubic metre per second ($1m^3s^{-1}$).
d/s	Downstream.
DO	Dissolved oxygen.
EPT	EPT represents three insect orders as a collective, grouping Ephemeroptera (mayfly), Plecoptera (stonefly) and Trichoptera (caddisfly) which are macroinvertebrate taxa.
Fresh	Elevated flow in a stream, such as after heavy rainfall.
$g/m^2/day$	grams/metre^2/day.
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.
HEP	Hydroelectric power.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.
Incident Register	The Incident Register contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.
L/s	Litres per second.
m^2	Square Metres.
masl	metres above sea level
MCI	Macroinvertebrate community index; a numerical indication of the state of biological life in a stream that takes into account the sensitivity of the taxa present to organic pollution in stony habitats.
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.
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.
Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15).
RMA	*Resource Management Act 1991* and including all subsequent amendments.

SS	Suspended solids.
SQMCI	Semi quantitative macroinvertebrate community index.
Temp	Temperature, measured in °C (degrees Celsius).
Turb	Turbidity, expressed in NTU.
UI	Unauthorised Incident.
u/s	Upstream.

*an abbreviation for a metal or other analyte may be followed by the letters 'As', to denote the amount of metal recoverable in acidic conditions. This is taken as indicating the total amount of metal that might be solubilised under extreme environmental conditions. The abbreviation may alternatively be followed by the letter 'D', denoting the amount of the metal present in dissolved form rather than in particulate or solid form.

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

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Appendix I

Resource consents held by Manawa Energy Limited

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

Water abstraction permits

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

Water discharge permits

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

Air discharge permits

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

Discharges of wastes to land

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

Land use permits

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

Coastal permits

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

Water Permit

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

Name of Consent Holder:	Trustpower Limited Private Bag 12023 Tauranga 3143
Decision Date:	19 September 2001
Commencement Date:	19 September 2001

Conditions of Consent

Consent Granted:	To take and use up to 5200 litres/second of water from the Manganui River in the Waitara catchment for hydroelectric power generation purposes
Expiry Date:	1 June 2022
Site Location:	Manganui River, Downstream Of Tariki Road Bridge, Ratapiko, Inglewood
Grid Reference (NZTM)	1710124E-5658362N
Catchment:	Waitara
Tributary:	Manganui

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. That the abstraction shall be managed to ensure that a residual flow of not less than 400 litres/second is maintained, at all times in the Manganui River below the weir situated at grid reference 1710124E-5658362N.

2. That the residual flow shall be passed through the fish pass, within 12 months of the granting of this consent, subject to conditions 1 and 2 of consent 5080.

3. That the consent holder shall install and operate a measuring device capable of measuring, at a minimum of 15 minute intervals, the abstraction rate of water from the Manganui River and shall make records of such measurements available to the Chief Executive, at three monthly intervals.

4. That the abstraction shall be managed so as to ensure that when the flow in the Waitara River, as measured at the Bertrand Road hydrology gauging site, is less than or equal to 5000 litres/second, the flow in the upper Manganui River, above the weir will either:

(a) pass directly over the weir into the Manganui River; or

(b) pass continuously through Lake Ratapiko [with provision for the residual flow in the Manganui River] and the power station into the Makara Stream, and thence the lower Waitara River;

in order to mitigate the effects of low flows in the Waitara River. The Taranaki Regional Council shall notify the consent holder when flows at the Bertrand Road site are equal to 5000 litres/second.

5. That the consent holder shall pass 400 litres/second for three hours daily over the weir, if the weir licensed by consent 5080 is not naturally overtopped by flows in the Manganui River, of the same or larger volume, for a continuous period of 30 days.

6. That the consent holder shall design, install, maintain and monitor a race water level control system to manage the inflow from the Manganui River, within 2 months of the granting of this consent. The purpose of the control system shall be to avoid flooding of farmland attributable to the activities of the consent holder, as a result of the abstraction and the diversion of stormwater under consent 3371. The control system shall have an emergency power source capable of monitoring the system for up to 48 hours and shutting the race intake gate.

7. That the consent holder shall, as far as is practicable, maintain a residual flow of 150 litres/second in the race during maintenance periods. During periods when it is not practicable, the consent holder shall arrange for a fish salvage operation to relocate stranded fish from the race.

8. That by the agreement of the consent holder, the consent holder shall mitigate the effects of the abstraction by donating annually to the Taranaki Tree Trust $6000 [goods and services tax exclusive] for the purpose of providing riparian management in the Manganui River catchment.

9. That the consent holder and staff of the Taranaki Regional Council shall meet as appropriate, and at least once per year, with interested submitters to the consent, to discuss any matter relating to the exercise of this resource consent, particularly the monitoring programme design, implementation and interpretation, in order to facilitate ongoing consultation.

10. That the consent holder may apply to the Taranaki Regional Council for a change or cancellation of the conditions of this consent, in accordance with section 127(1)(a) of the Resource Management Act 1991, to take account of operational requirements or the results of monitoring, provided that such application may not be made more than once in any twelve month period.

11. That the Taranaki Regional Council may review any or all of the conditions of this consent, pursuant to section 128 of the Resource Management Act 1991, by giving notice of review during the month of June 2001, June 2003, June 2009 and/or June 2015, 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 were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 31 October 2016

For and on behalf of
Taranaki Regional Council

_____

A D McLay
Director - Resource Management

Water Permit

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

Name of Consent Holder:	Trustpower Limited Private Bag 12023 Tauranga 3143
Decision Date (Change):	7 July 2016
Commencement Date (Change):	7 July 2016 (Granted: 19 September 2001)

Conditions of Consent

Consent Granted:	To divert and use up to 8000 litres/second of stormwater run-off and the entire flow of various unnamed watercourses draining into the race and into Lake Ratapiko in the Waitara catchment for hydroelectric power supply purposes
Expiry Date:	1 June 2022
Review:	In accordance with special condition 8
Site Location:	Motukawa Hydro Race & Lake Ratapiko, Tariki Road, Ratapiko
Grid Reference (NZTM)	1710120E-5658360N
Catchment:	Waitara
Tributary:	Manganui

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

General conditions

a) That 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) 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 design, install, maintain and monitor a race water level control system, within 2 months of the granting of this consent, for the purpose of achieving compliance with condition 2. The control system shall have an emergency power source capable of monitoring the system for up to 48 hours and shutting the race intake gate.

2. That the consent holder shall manage the water in the race so as to avoid or minimise the potential for flooding of adjacent farmland attributable to the activities of the consent holder by ensuring a maximum race water level (metres), above mean sea-level, of:

    205.20 at Salisbury Road (NZTM: 1711773E-5658233N);
    199.30 at Mangaotea (NZTM: 1712685E-5658307N);
    199.25 at the Mangaotea Aqueduct (NZTM: 1712760E-5658335N);
    199.15 at Lower Mangaotea (NZTM: 1713893E-5659542N).

3. That the consent holder shall, within 1 month of granting of this consent, install and survey stage boards at the sites noted in condition 2 for the purpose of providing a visual check of race water levels, to the satisfaction of the Chief Executive.

4. That a five-yearly monitoring survey of the race be completed by the consent holder to identify any maintenance requirements in order to maintain a race capacity of 8000 litres/second, for the purpose of avoiding flooding adjacent farmland, any required maintenance shall occur within 12 months of the completion of the survey.

5. That the consent holder shall install and operate measuring devices capable of measuring the water level, at a minimum of 15 minute intervals, in the race at the locations specified in condition 2, and shall make records of such measurements available to the Chief Executive at three monthly intervals. The records supplied are also to include the rainfall data at hourly intervals from the station established at the Mangaotea Road culvert.

6. That the consent holder and staff of the Taranaki Regional Council shall meet as appropriate, and at least once per year, with interested submitters to the consent, to discuss any matter relating to the exercise of this resource consent particularly the monitoring programme design, implementation and interpretation, in order to facilitate ongoing consultation.

7. That:

   a) In order to ensure compliance with conditions 1 to 2 of this consent or to remedy any adverse environmental effects caused by the acts or omissions of the consent holder in carrying out activities pursuant to these conditions, the Taranaki Regional Council requires the consent holder to enter into a bond with a financial institution of good repute to be provided as surety to the reasonable satisfaction of the Chief Executive;

   b) The bond shall be in the sum of $150,000;

   c) The consent holder shall complete such work requested, in respect of which any bond is held, within the time period nominated by the Taranaki Regional Council's written request;

   d) If the bond is raised and required pursuant to paragraph 7(b) it shall be held or remain in full force and effect throughout the term of the consent and until all requirements of the bond have been performed;

   e) The form of the bond is to be prepared by the Taranaki Regional Council's solicitors and the consent holder is to pay the Taranaki Regional Council's costs on preparation and execution of the bond;

   f) If the consent is transferred in part or whole to another party or person, the bond shall continue until any outstanding work at the date of transfer is completed to ensure compliance with the conditions of this consent, unless the Taranaki Regional Council is satisfied adequate provisions have been made to transfer the liability to the new consent holder;

   g) In the event of any such transfer of the consent, the consent holder shall ensure that the transferee forthwith provides a replacement bond to the Taranaki Regional Council on the terms required by condition 7(a) to 7(f);

   provided that this condition shall only take effect if flooding of land adjoining the race attributable to the activities of the consent holder occurs within the period 1 May 1999 to 30 April 2000. For the avoidance of doubt, the consent holder shall not be required to establish such a bond unless such flooding occurs within that period.

8. That the Taranaki Regional Council may review, under section 128 of the Resource Management Act 1991, the conditions of this consent if, at any time after the race water level control system is installed, there is flooding of adjoining of the Motukawa Power Scheme attributable to the activities of the consent holder.

9. That the consent holder may apply to the Taranaki Regional Council for a change or cancellation of the conditions of this consent, in accordance with section 127(1)(a) of the Resource Management Act 1991, to take account to operational requirements or the results of monitoring provided that such an application may not be made more than once in any twelve month period.

10. That the Taranaki Regional Council may review any or all of the conditions of this consent, pursuant to section 128 of the Resource Management Act 1991, by giving notice of review during the month of June 2001, June 2003, June 2009 and/or June 2015, 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 were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 31 October 2016

For and on behalf of
Taranaki Regional Council

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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:	Manawa Energy Limited
Decision Date:	19 September 2001
Commencement Date:	19 September 2001

Conditions of Consent

Consent Granted:	To discharge up to 7787 litres/second of water from the Motukawa hydroelectric power station into the Makara Stream in the Waitara catchment
Expiry Date:	1 June 2022
Site Location:	Motukawa Power Station, Motukawa Road, Ratapiko Inglewood
Grid Reference (NZTM)	1719320E-5661868N
Catchment:	Waitara
Tributary:	Makara 3 (Waitara)

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

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Please quote our document number in your reply

General conditions

a) That 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) 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 discharge shall be managed so as to ensure that when the flow in the Waitara River, as measured at the Bertrand Road hydrology gauging site, is less than or equal to 5000 litres/second, the flow in the upper Manganui River, above the weir will either:

   (a) pass directly over the weir into the Manganui River; or

   (b) pass continuously through Lake Ratapiko [with provision for the residual flow in the Manganui River] and the power station into the Makara Stream, and thence the lower Waitara River;

   in order to mitigate the effects of low flows in the Waitara River. The Taranaki Regional Council shall notify the consent holder when flows at the Bertrand Road site are equal to 5000 litres/second.

2. That the consent holder shall install and operate a measuring device capable of measuring, at a minimum of 15 minutes intervals, the discharge rate of water into the Makara Stream and shall make records of such measurements available to the Chief Executive, at three monthly intervals.

3. That the consent holder shall design, install, maintain and monitor a facility to enable the passage of elvers over the dam within six months of the granting of this consent. The monitoring information is to be forwarded to the Chief Executive, Taranaki Regional Council, at twelve monthly intervals

4. That the consent holder and staff of the Taranaki Regional Council shall meet as appropriate, and at least once per year, with interested submitters to the consent, to discuss any matter relating to the exercise of this resource consent, particularly the monitoring programme design, implementation and interpretation, in order to facilitate ongoing consultation.

5. That the consent holder may apply to the Taranaki Regional Council for a change or cancellation of the conditions of this consent, in accordance with section 127(1)(a) of the Resource Management Act 1991, to take account of operational requirements or the results of monitoring, provided that such application may not be made more than once in any twelve month period.

6. That the Taranaki Regional Council may review any or all of the conditions of this consent, pursuant to section 128 of the Resource Management Act 1991, by giving notice of review during the month of June 2001, June 2003, June 2009 and/or June 2015, 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 were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 1 May 2022

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:	Trustpower Limited Private Bag 12023 Tauranga 3143	
Decision Date (Change):	4 November 2002	
Commencement Date (Change):	4 November 2002	(Granted Date: 19 September 2001)

Conditions of Consent

Consent Granted:	To dam the Mako Stream a tributary of the Makino Stream in the Waitara catchment to form Lake Ratapiko for hydroelectric power generation purposes, including the spillway structure
Expiry Date:	1 June 2022
Site Location:	Motukawa Hydroelectric Power Scheme, Lake Ratapiko, Ratapiko Road, Ratapiko, Inglewood
Grid Reference (NZTM)	1715023E-5659165N
Catchment:	Waitara
Tributary	Makino Mako Lake Ratapiko

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. That the consent holder shall, within 6 months of the granting of this consent, provide a SEED [Survey Evaluation of Existing Dams] review from a registered engineer, experienced in the design and safety of dams.

2. That it is the responsibility of the consent holder to maintain and operate a safe dam and the Taranaki Regional Council accepts no responsibility in this regard.

3. The consent holder may construct, place and maintain a structure on top of the spillway crest for the purpose of increasing lake storage.

4. That the consent holder shall manage the structure in condition 3 and the lake level so as to avoid flooding of land adjacent to the lake and race as may be attributable to the activities of the consent holder.

5. That the consent holder shall ensure that a minimum lake water level of 194 metres above mean sea level, is retained at all times, except during periods of maintenance, for the purpose of maintaining aquatic habitat.

6. That the consent holder shall ensure the maximum level, under normal operating conditions, of Lake Ratapiko does not exceed 198.7 metres above mean sea level.

7. That the consent holder shall design, install, maintain and monitor a facility to enable the passage of elvers and adult eels over the spillway within six months of the granting of this consent. The monitoring information is to be forwarded to the Chief Executive, Taranaki Regional Council, at twelve monthly intervals.

8. That the consent holder shall install and operate a measuring device capable of measuring the lake water level, at a minimum of 15 minute intervals, at the spillway, and shall make records of such measurements available to the Chief Executive, at three monthly intervals.

9. That the consent holder and staff of the Taranaki Regional Council shall meet as appropriate, and at least once per year, with interested submitters to the consent, to discuss any matter relating to the exercise of this resource consent, particularly the monitoring programme design, implementation and interpretation, in order to facilitate ongoing consultation.

10. That 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(1)(a) of the Resource Management Act 1991, to take account of operational requirements or the results of the monitoring, provided that such application may not be made more than once in any twelve month period.

11. That the Taranaki Regional Council may review any or all of the conditions of this consent, pursuant to section 128 of the Resource Management Act 1991, by giving notice of review during the month of June 2001, June 2003, June 2009 and/or June 2015, 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 were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 31 October 2016

For and on behalf of
Taranaki Regional Council

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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:	Trustpower Limited Private Bag 12023 Tauranga 3143
Decision Date:	19 September 2001
Commencement Date:	19 September 2001

Conditions of Consent

Consent Granted:	To erect, place, use and maintain the weir and various structures associated with hydroelectric power generation activities in the Manganui River in the Waitara catchment
Expiry Date:	1 June 2022
Site Location:	Manganui River, Tariki Road, Ratapiko, Inglewood
Grid Reference (NZTM)	1710124E-5658362N
Catchment:	Waitara
Tributary:	Manganui

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. That the consent holder shall design, install, maintain and monitor a structure at the weir to enable the passage of eels, native fish, juvenile and adult trout.

2. That the fish pass structure, required by condition 1, shall be constructed within 12 months of the granting of this consent, according to sheets 1, 2 and 3 of drawing 4-1007-2-7804 supplied with the application. The consent holder shall notify the Taranaki Regional Council at least 48 hours prior to the commencement of fish pass construction.

3. That the consent holder shall install, maintain and operate a light barrier, within 6 months of the granting of this consent, for the purpose of diverting fish from the intake gate.

4. That the consent holder and staff of the Taranaki Regional Council shall meet as appropriate, and at least once per year, with interested submitters to the consent, to discuss any matter relating to the exercise of this resource consent, particularly the monitoring programme design, implementation and interpretation, in order to facilitate ongoing consultation.

5. That 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(1)(a) of the Resource Management Act 1991, to take account of operational requirements or the results of the monitoring, provided that such application may not be made more than once in any twelve month period.

6. That the Taranaki Regional Council may review any or all of the conditions of this consent, pursuant to section 128 of the Resource Management Act 1991, by giving notice of review during the month of June 2001, June 2003, June 2009 and/or June 2015, 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 were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 31 October 2016

For and on behalf of
Taranaki Regional Council

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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:	Trustpower Limited Private Bag 12023 Tauranga 3143
Decision Date:	19 August 1999
Commencement Date:	19 August 1999

Conditions of Consent

Consent Granted:	To discharge, under emergency conditions, up to 2000 litres/second of overflow water from the Mangaotea Aqueduct into the Mangaotea Stream a tributary of the Manganui River in the Waitara catchment
Expiry Date:	1 June 2022
Site Location:	Mangaotea Aqueduct Mangaotea Road, Ratapiko Inglewood
Grid Reference (NZTM)	1712724E-5658364N
Catchment:	Waitara
Tributary:	Manganui Mangaotea

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

General conditions

a) That 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) 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 discharge shall occur after compliance with condition 2 of consent TRK995081 is achieved.

2. That emergency conditions constitute a period when local stormwater runoff to the race is required to be discharged to the Mangaotea Stream in order to avoid the race flooding adjoining land.

3. That the consent holder shall manage the discharge so as to avoid or minimise the flooding of farmland and roads below the discharge, as may be attributable to the activities of the consent holder.

4. That by the agreement of the consent holder, the consent holder shall set aside $600 annually, [adjusted annually to reflect changes in the Cost Construction Index as published by the Department of Statistics or its succeeding organisation], for the maintenance of the flood capacity of the Mangaotea Stream below the discharge to mitigate the effects of the discharge and shall make the funds available to landowners for such works, to the reasonable satisfaction of the General Manager, Taranaki Regional Council, upon request.

5. That 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(1)(a) of the Resource Management Act 1991, to take account of operational requirements or the results of the monitoring, provided that such application may not be made more than once in any twelve month period.

6. That the consent holder and staff of the Taranaki Regional Council shall meet as appropriate, and at least once per year, with interested submitters to the consent, to discuss any matter relating to the exercise of this resource consent, particularly the monitoring programme design, implementation and interpretation, in order to facilitate ongoing consultation.

7. That the Taranaki Regional Council may review any or all of the conditions of this consent, pursuant to section 128 of the Resource Management Act 1991, by giving notice of review during the month of June 2001, June 2003, June 2009 and/or June 2015, 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 were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 31 October 2016

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:	Trustpower Limited Private Bag 12023 Tauranga 3143
Decision Date:	19 September 2001
Commencement Date:	19 September 2001

Conditions of Consent

Consent Granted:	To discharge up to 55,000 litres/second of hydroelectric power generation water, during adverse weather conditions, via spillways and lake drainage valves from Lake Ratapiko into the Mako Stream a tributary of the Makino Stream in the Waitara catchment
Expiry Date:	1 June 2022
Site Location:	Lake Ratapiko / Mako Stream, Ratapiko Road, Ratapiko, Inglewood
Grid Reference (NZTM)	1715023E-5659165N
Catchment:	Waitara
Tributary:	Makino Mako

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

General conditions

a) That 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) 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, within 6 months of the granting of this consent, prepare a contingency plan for the purpose of managing the discharge so as to avoid or minimise damage to property downstream. The contingency plan shall include reporting the exercise of the consent.

2. That the consent holder shall exercise the consent in accordance with the contingency plan.

3. That the consent holder and staff of the Taranaki Regional Council shall meet as appropriate, and at least once per year, with interested submitters to the consent, to discuss any matter relating to the exercise of this resource consent, particularly the monitoring programme design, implementation and interpretation, in order to facilitate ongoing consultation.

4. That 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(1)(a) of the Resource Management Act 1991, to take account of operational requirements or the results of the monitoring, provided that such application may not be made more than once in any twelve month period.

5. That the Taranaki Regional Council may review any or all of the conditions of this consent, pursuant to section 128 of the Resource Management Act 1991, by giving notice of review during the month of June 2001, June 2003, June 2009 and/or June 2015, 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 were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 31 October 2016

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:	Trustpower Limited Private Bag 12023 Tauranga 3143
Decision Date:	19 September 2001
Commencement Date:	19 September 2001

Conditions of Consent

Consent Granted:	To disturb the bed of Lake Ratapiko in the Waitara catchment for maintenance and repairs associated with hydroelectric power generation purposes
Expiry Date:	1 June 2022
Site Location:	Lake Ratapiko, Ratapiko Road Ratapiko, Inglewood
Grid Reference (NZTM)	1714723E-5659565N
Catchment:	Waitara
Tributary:	Lake Ratapiko

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

General conditions

a) That 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) 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 notify the Taranaki Regional Council at least 48 hours prior to the commencement of any disturbance activities.

2. That 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 potential effect on the environment arising from any disturbance activities.

3. That the consent holder and staff of the Taranaki Regional Council shall meet as appropriate, and at least once per year, with interested submitters to the consent, to discuss any matter relating to the exercise of this resource consent, particularly the monitoring programme design, implementation and interpretation, in order to facilitate ongoing consultation.

4. That 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(1)(a) of the Resource Management Act 1991, to take account of operational requirements or the results of the monitoring, provided that such application may not be made more than once in any twelve month period.

5. That the Taranaki Regional Council may review any or all of the conditions of this consent, pursuant to section 128 of the Resource Management Act 1991, by giving notice of review during the month of June 2001, June 2003, June 2009 and/or June 2015, 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 were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 31 October 2016

For and on behalf of
Taranaki Regional Council

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A D McLay
Director - Resource Management

Water Permit

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

Name of Consent Holder:	Trustpower Limited Private Bag 12023 Tauranga 3143
Decision Date:	19 September 2001
Commencement Date:	19 September 2001

Conditions of Consent

Consent Granted:	To take and use up to 7787 litres/second of water from Lake Ratapiko in the Waitara catchment for hydroelectric power generation purposes
Expiry Date:	1 June 2022
Site Location:	Lake Ratapiko, Ratapiko Road, Ratapiko, Inglewood
Grid Reference (NZTM)	1716522E-5659566N
Catchment:	Waitara
Tributary:	Lake Ratapiko

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

General conditions

a) That 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) 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 ensure that a minimum lake water level of 194 metres above mean sea level is retained at all times, except during periods of maintenance, for the purpose of maintaining aquatic habitat.

2. That the consent holder shall, for lake maintenance purposes, draw the level of Lake Ratapiko down gradually, over a 7-day period, in order to avoid or minimise fish stranding, and shall notify the Taranaki Regional Council and Fish and Game New Zealand at the commencement of the draw down period.

3. That the consent holder shall ensure that the maximum level, under normal operating conditions, of Lake Ratapiko does not exceed 198.7 metres above mean sea level.

4. That the consent holder shall manage lake levels so as to avoid or minimise the potential for the flooding of land adjoining the lake and race attributable to the activities of the consent holder.

5. That the consent holder and staff of the Taranaki Regional Council shall meet as appropriate, and at least once per year, with interested submitters to the consent, to discuss any matter relating to the exercise of this resource consent, particularly the monitoring programme design, implementation and interpretation, in order to facilitate ongoing consultation.

6. That 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(1)(a) of the Resource Management Act 1991, to take account of operational requirements or the results of the monitoring, provided that such application may not be made more than once in any twelve month period.

7. That the Taranaki Regional Council may review any or all of the conditions of this consent, pursuant to section 128 of the Resource Management Act 1991, by giving notice of review during the month of June 2001, June 2003, June 2009 and/or June 2015, 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 were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 31 October 2016

For and on behalf of
Taranaki Regional Council

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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:	Trustpower Limited Private Bag 12023 Tauranga 3143
Decision Date:	19 September 2001
Commencement Date:	19 September 2001

Conditions of Consent

Consent Granted:	To discharge up to 2000 litres/second of water from the surge chamber of the Motukawa hydroelectric power station during maintenance periods into an unnamed tributary of the Makara Stream in the Waitara catchment
Expiry Date:	1 June 2022
Site Location:	Motukawa HEP Station, Motukawa Road, Ratapiko, Inglewood
Grid Reference (NZTM)	1718421E-5661167N
Catchment:	Waitara
Tributary:	Makara

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

General conditions

a) That 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) 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, within 6 months of the granting of this consent, prepare a contingency plan for the purpose of managing the discharge so as to avoid or minimise the potential for damage to property downstream.

2. The consent holder shall exercise the consent in accordance with the contingency plan.

3. That the consent holder shall notify the Taranaki Regional Council at least 48 hours prior to the discharge and shall adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any actual or likely effect on the environment arising from the discharge.

4. That the consent holder and staff of the Taranaki Regional Council shall meet as appropriate, and at least once per year, with interested submitters to the consent, to discuss any matter relating to the exercise of this resource consent, particularly the monitoring programme design, implementation and interpretation, in order to facilitate ongoing consultation.

5. That 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(1)(a) of the Resource Management Act 1991, to take account of operational requirements or the results of the monitoring, provided that such application may not be made more than once in any twelve month period.

6. That the Taranaki Regional Council may review any or all of the conditions of this consent, pursuant to section 128 of the Resource Management Act 1991, by giving notice of review during the month of June 2001, June 2003, June 2009 and/or June 2015, 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 were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 31 October 2016

For and on behalf of
Taranaki Regional Council

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A D McLay
Director - Resource Management

Water Permit

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

Name of Consent Holder:	TrustPower Limited Private Bag 12023 TAURANGA
Consent Granted Date:	27 July 2004

Conditions of Consent

Consent Granted:	To divert and use water in the Motukawa Race for hydroelectric power generation purposes at or about GR: Q19:228-200
Expiry Date:	1 June 2022
Review Date(s):	June 2009, June 2015
Site Location:	Motukawa Race, Mangaotea Road, Ratapiko
Legal Description:	Subdivision 2-3 Sec 2 Blk V Huiroa SD, Subdivision 1-2 Section 25 Blk VI Huiroa SD, and Subdivision 2-3 Section 27 Blk VI Huiroa SD
Catchment:	Waitara
Tributary:	Manganui Lake Ratapiko Motukawa Race

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

2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 3058. In the case of any contradiction between the documentation submitted in support of application 3058 and the conditions of this consent, the conditions of this consent shall prevail.

3. The consent holder shall notify the Chief Executive, Taranaki Regional Council, in writing at least seven days prior to the exercise of this consent.

4. This consent shall lapse on the expiry of ten 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.

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 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 27 July 2004

For and on behalf of
Taranaki Regional Council

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Director-Resource Management

Water Permit

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

Name of Consent Holder:	Trustpower Limited Private Bag 12023 Tauranga 3143
Decision Date:	27 July 2004
Commencement Date:	27 July 2004

Conditions of Consent

Consent Granted:	To divert and use water in the Motukawa Race for hydroelectric power generation purposes
Expiry Date:	1 June 2022
Site Location:	Motukawa Race, Mangaotea Road, Ratapiko, Inglewood
Grid Reference (NZTM)	1712726E-5658316N
Catchment:	Waitara
Tributary:	Manganui Lake Ratapiko Motukawa Race

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

2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 3058. In the case of any contradiction between the documentation submitted in support of application 3058 and the conditions of this consent, the conditions of this consent shall prevail.

3. The consent holder shall notify the Chief Executive, Taranaki Regional Council, in writing at least seven days prior to the exercise of this consent.

4. This consent shall lapse on the expiry of ten 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.

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 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.

Transferred at Stratford on 31 October 2016

For and on behalf of
Taranaki Regional Council

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A D McLay
Director - Resource Management

Water Permit

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

Name of Consent Holder:	Trustpower Limited Private Bag 12023 Tauranga 3143	
Decision Date (Change):	23 June 2006	
Commencement Date (Change):	23 June 2006	(Granted Date: 27 July 2004)

Conditions of Consent

Consent Granted:	To impound water behind a dam on the Motukawa Race for hydroelectric power generation purposes
Expiry Date:	1 June 2022
Site Location:	Motukawa Race, Mangaotea Road, Ratapiko, Inglewood
Grid Reference (NZTM)	1712726E-5658316N
Catchment:	Waitara
Tributary:	Manganui Lake Ratapiko Motukawa Race

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

Condition 1 – unchanged

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 resource consent.

Condition 2 – changed

2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 3060 and 4257. In the case of any contradiction between the documentation submitted in support of application 3060, 4257, and the conditions of this consent, the conditions of this consent shall prevail.

Conditions 3 to 6 – unchanged

3. The consent holder shall notify the Chief Executive, Taranaki Regional Council, and Fish and Game New Zealand [Taranaki Region], in writing at least 14 days prior to the construction of the dam and turbine unit in the Motukawa Race.

4. The consent holder shall ensure that the intake is appropriately screened to avoid the entrapment of freshwater fauna.

5. The consent holder shall, on three occasions during November to February each year, cease generation from the turbine unit and open the bypass valve for 12 hours in order to enable trout to pass through the dam.

6. The consent holder shall monitor the effectiveness of the bypass valve as a fish passage device for the first six [6] bypass events, and shall provide monitoring data to the Chief Executive, Taranaki Regional Council, and Fish and Game New Zealand [Taranaki Region], as soon as practicable after the sixth monitoring event. Monitoring shall include:

   (a) A visual inspection of the section of the Motukawa Race from the outlet of Coxhead Tunnel to the dam site prior to the first six [6] bypass events in order to determine whether trout are accumulating in the head pond; and

   (b) A survey of trout in the 100 metre section of the Motukawa Race downstream of the dam, prior to and immediately following the completion of each of the first six [6] bypass events.

Condition 7 – changed

7. In accordance with section 128 of the Resource Management Act 1991, the Taranaki Regional Council may review the conditions of this consent if, after the completion of the first six [6] bypass events, the monitoring shows that a significant number of trout accumulate in the generator head pond and are not being passed by the bypass valve, or there are a significant number of trout mortalities caused by passage through the turbine.

Conditions 8 to 10 – unchanged

8. The consent holder shall manage the water in the race so as to avoid or minimise the potential for flooding of adjacent farmland attributable to the activities of the consent holder by ensuring a maximum race water level [metres], above mean sea-level of:

   205.20 at Coxhead's Bridge [GR Q20:219 198];
   199.30 upstream of Mangaotea Road culvert [GR Q19:227 201];
   199.25 at the Mangaotea Aqueduct [GR Q19:228 201]; and
   199.15 at Berryman's Bridge [GR Q9:239-213].

9. This consent shall lapse on the expiry of ten 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 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.

Transferred at Stratford on 31 October 2016

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:	Trustpower Limited Private Bag 12023 Tauranga 3143
Decision Date	11 December 2020
Commencement Date	11 December 2020

Conditions of Consent

Consent Granted:	To dredge the bed of a settling pond in the Motukawa water race
Expiry Date:	1 June 2039
Review Date(s):	June 2023 and 3-yearly intervals thereafter
Site Location:	Motukawa Race, Tariki
Grid Reference (NZTM)	1710507E-5658282N
Catchment:	Waitara
Tributary:	Manganui

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

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Please quote our document number in your reply

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 removal of sediment by dredging the bottom of the sediment pond shall only occur within the area shaded yellow on the attached plan (Appendix 1).

2. The consent holder shall notify the Chief Executive, Taranaki Regional Council, in writing at least 2 working days prior to the commencement of each dredging season (e.g. yearly). Unless the Chief Executive advises that an alternative method is required this notice shall be served by completing and submitting the 'Notification of work' form on the Council's website (http://bit.ly/TRCWorkNotificationForm).

3. The consent holder shall ensure that the area and volume of pond bed 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.

4. During the exercise of this consent, and on completion of the works, no stockpiles, sludge, sediment, trees/vegetation or surplus material shall be left in a position where it may enter a waterbody.

5. At all times during dredging activities a silt curtain shall be installed at the outlet of the pond to prevent sediment entering the race.

6. After allowing for reasonable mixing, within a mixing zone extending 50 metres downstream of the silt curtain, the discharge shall not cause a suspended solids increase of more than 1.5 times the suspended solids concentration of that in the Motukawa race immediately downstream of the intake.

7. All earthwork areas, including pond banks and approaches shall be stabilised as soon as is practicable immediately following completion of soil disturbance activities.

   Note: For the purpose of this condition "stabilised" in relation to any site or area means inherently resistant to erosion or rendered resistant, such as by using indurated rock or by the application of basecourse, colluvium, grassing, mulch, or another method to the reasonable satisfaction of the Chief Executive, Taranaki Regional Council and as specified in Waikato Regional Council's Guidelines for Soil Disturbing Activities. Where seeding or grassing is used on a surface that is not otherwise resistant to erosion, the surface is considered stabilised once, on reasonable visual inspection by an Investigating Officer, Taranaki Regional Council, an 80% vegetative cover has been established.

8. The consent holder shall prepare and implement a fish recovery plan that has been certified by the Chief Executive of the Taranaki Regional Council. The plan shall detail how the impacts on fish during the dredging are avoided as far as practical, and shall include as a minimum how fish will be recovered, how often fish will be recovered, and recording the number and types of fish recovered. The recorded number and types of fish recovered shall be provided to the Chief Executive of the Taranaki Regional Council no later than 20 days after the dredging activities.

9. This consent lapses 5 years after its date of commencement, 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 2023 and 3-yearly 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 11 December 2020

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Appendix 1: Dredging activities to occur within the yellow area

Appendix II

Categories used to evaluate environmental and administrative performance

Categories used to evaluate environmental and administrative performance

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

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

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

Environmental Performance

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

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

For example:

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

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

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

Administrative performance

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

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

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

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