BAY OF PLENTY REGIONAL COUNCIL
TOI MOANA

Consent Holder Annual Report - April 2022

Okere Gates (consent 65979) and Ohau Weir (consent 65980)

Bay of Plenty Regional Council
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Bay of Plenty Regional Council's (BOPRC) Environmental Data Services (EDS) Rivers & Drainage (R&D), and Survey Team are acknowledged for their efforts in data management, maintenance and monitoring.

Their work includes, technical support, establishment of survey control, cross section surveys, staff gauge monitoring, the installation and removal of the Ohau Weir stoplogs and general maintenance of structures.

Figure 1 *Okere Gates – BOPRC Rivers and Drainage staff and contractors reinstating Gate #2 following scheduled maintenance – May 2020.*

Executive summary

This report covers the 12 months of lake operations from 1 April 2021 to 31 March 2022 (referred to as 'this time or this period') and will discuss:

- Lake levels – Rotorua and Rotoiti
- Flow rates – Ōhau Channel vs Okere Gates/Kaituna River
- Operational difficulties
- Stakeholder consultation
- Complaints and investigations
- Conclusions.

Resource Consents 65979 and 65980 approve the continued placement, operation and maintenance of the Okere Gates and the Ōhau Channel Weir structures that are located at the outlets of Lake Rotoiti and Rotorua respectively.

For this period, rainfall, lake levels and stream inflows were well below normal.

Lake Rotoiti levels were held in the 'main operating range' of RL 279.10 m to RL 279.20 m for 224 days or 61% of the time. Rotoiti levels were then below RL 279.10 m for 136 days or 4.5 months and with only five days peaking above RL 279.20 m.

Although not programmed, there were effectively three annual drawdowns this period when the lake reached the consented minimum level of RL 279.00 m, one in August 2021 and two in February and March 2022.

For this reporting period, Kaituna River 'flows' were available to rafting for 360 days or 98.6% of the year. However, of these, 35 days were lost to Covid Level 4 and Level 3 lockdown restrictions.

Okere Gates outflows were greater than Ōhau Channel inflows for 100% of the period except for a few minor occasions following gate adjustments to minimise outflows in an effort to hold lake levels in Lake Rotoiti. This is a primary objective of the consent to ensure water from Lake Rotorua does not mix with the main water body of Lake Rotoiti. The Ohau Diversion Wall also assists in this objective in channeling outflows directly into the Okere Arm/Te Akau Bay area.

The Ōhau Channel stoplogs were not removed this period as Lake Rotorua levels remained within operational limits.

There were no operational difficulties to report this period. The refurbishment of the Okere Gates was completed in September 2020. This work was managed under Council's Asset Management Programme maintenance schedules

Rotoiti beaches and lake level staff gauges continue to be monitored and photographed regularly providing a robust and visual record of the lake environment for present and future reporting.

There were no formal complaints received by Council's regulatory authority arm with any local concerns addressed promptly.

Communication continues to be maintained across the various interest groups with ongoing communication with Iwi, Kaituna River Rafting, Rotorua Tourism, Fish & Game New Zealand and various lakeside residents over this period.

The low lake level trial of Lake Rotoiti is progressing with a hearing scheduled in Rotorua in September 2022. This proposal considers lowering Lake Rotoiti close to its historic minimum level of RL 278.850 m. At this stage, the trial is expected to commence after Easter in 2023 but possibly earlier if natural conditions permit. Any decision to begin lowering will be by consultation with key stakeholders.

An application for variation to Resource Consents 65979 and 65980 was approved in December 2020. This included: removing the winter drawdown of Lake Rotoiti and the annual flush of Ohau Channel, maintaining the input-output flow equation (Ōhau Channel flow verses Okere Gates flow) over aspirational lake levels, removing an unnecessary earthwork/bund condition and weed spraying with herbicide.

Rotorua Te Arawa Lakes Operational Liaison Group (RTALOLG) held their AGM in Rotorua on 5 August 2021 where general business and the annual report was presented.

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Document control

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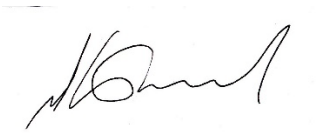
Authorised by: Mark Townsend  Date: 10 June 2022

Reviewed by: Mark Townsend  Date: 10 June 2022

Part 1: Introduction

1.1 Background

As Consent Holder, Bay of Plenty Regional Council's Integrated Catchments Group is required to submit an annual report by 1 June each year, on the operation and performance of the Okere Gates and Ōhau Channel Weir, in accordance with Resource Consent (RC 65979) Condition 15 and (RC 65980) Condition 12. The previous reporting date was 31 August which was reviewed to better align with the operating year.

The 35-year resource consents for Ohau Weir and Okere Gates were renewed and approved in March 2012.

Prior to the construction of the Okere Gates in 1982, a natural rock ledge existed about 35 m downstream of the existing gates that naturally controlled Lake Rotoiti levels. At that time, the Ōhau Channel, linking Lake Rotoiti to Lake Rotorua was an open channel without any controls. This meant that there was no active lake level control on either Lake Rotorua or Lake Rotoiti, resulting in lake levels to fluctuate naturally with climatic conditions.

Both control structures were put in place as part of the Kaituna Catchment Control Scheme. The structures were designed so that the lake level ranges could be managed within the range set in 1975, by the former National Water and Soil Conservation Authority (NWSCA). These levels were included in BOPRC's Transitional Regional Plan and are referred to in the existing consents granted for damming the outlets of both lakes.

The Okere Gates structure was constructed in 1982 and is a substantial radial triple gate structure. The sill or floor level of the Okere Gates is at RL 277.55 m or approximately 1.0 m lower than the pre-gate natural rock ledge. The purpose of the Okere Gates is to increase the outflows from Lake Rotoiti to permit floodwater to be discharged when required, and to reduce outflows to prevent undesirable low lake levels. The impacts of the Okere Gates operation on Lake Rotorua levels are generally minor but significant in terms of water quality to ensure all Lake Rotorua water passes through the gates to prevent reflux or mixing with Lake Rotoiti water.

The Ohau Channel Weir was constructed in 1989 as a simple weir structure (double broad crested weir) with stoplogs. The purpose of the Ohau Weir is to control the level of Lake Rotorua but predominantly to prevent undesirable low levels.

The Ohau Weir and Okere Gates are part of the Kaituna Catchment Control Scheme and are administered under the BOPRC's Rivers and Drainage Asset Management Plan (AMP). The AMP outlines the requirements to inspect and maintain the structures over their expected life cycle. They are operated by the Engineering Section through the Integrated Catchments Group in accordance with their existing resource consents.

Figure 2 Locality map

1.2 Reporting

It is a requirement of BOPRC Resource Consents 65979 and 65980 to report annually as follows.

Resource consent condition/s state:

(i) *RC 65979 – Condition 15 (Okere Gates – Lake Rotoiti)*

ANNUAL REPORTING

By 1 June each year for the term of this consent, the Consent Holder shall provide a report to the Chief Executive of the Bay of Plenty Regional Council or delegate, the Rotorua Te Arawa Operational Liaison Group (RTALOLG), the Ohau ki Rotoiti Kaitiaki Group and the Okere ki Kaituna Katikati Group setting out:

(a) *The actual distribution of lake levels compared to the target distribution.*

(b) *The actual flow rates of the Okere Gates compared to the minimum flow rates.*

(c) *Any difficulties experienced by the Consent Holder in achieving the target lake level ranges and minimum Okere Gate flow rates.*

(d) *A summary of any consultation undertaken with stakeholders in accordance with conditions 9, 10, 11 and 14 of this consent.*

(e) *A summary of any investigations undertaken as a result of complaints about the adverse effects of the lakes.*

(f) *Methods for how any difficulties in achieving target level ranges and Okere Gate minimum flows have and will be resolved and how any complaints about the adverse effects of lake levels have been responded to.*

(g) *Methods proposed to resolve any issues that may have risen including operational difficulties, water quality, and extreme weather events, and any changes required to the Operational Management Plan.*

(ii) *RC 65980 – Condition 12 (Ōhau Channel Weir – Lake Rotorua)*

ANNUAL REPORTING

By 1 June each year for the term of this consent, the Consent Holder shall provide a report to the Chief Executive of the Bay of Plenty Regional Council or delegate, the Rotorua Te Arawa Operational Liaison Group (RTALOLG), the Ohau ki Rotoiti Kaitiaki Group and the Okere ki Kaituna Kaitiaki Group setting out:

(a) *The actual distribution of lake levels compared to the target distribution.*

(b) *Any difficulties experienced by the Consent Holder in achieving the target lake level ranges and minimum Okere Gate flow rates.*

(c) *A summary of any consultation undertaken with stakeholders in accordance with conditions 10 and 11 of this consent.*

(d) *A summary of any investigations undertaken as a result of complaints about the adverse effects of the lakes.*

(e) Methods for how any difficulties in achieving target level ranges and Okere Gate minimum flows have and will be resolved and how many complaints about the adverse effects of lake levels have been responded to.

(f) Methods proposed to resolve any issues that may have risen including operational difficulties, water quality, and extreme weather events, and any changes required to the Operational Management Plan.

1.3 Consent changes

Council is now in the process of completing its consent application to change the consent conditions. All the proposed changes were discussed with the RTALOG at their annual meeting and directly with other local interest groups. The application was submitted in July 2020 and covered the following matters:

1 The winter drawdown conditions were deleted (as this did not achieve any scouring of the Ōhau channel as anticipated by some of the community),

2 The aspirational consent level ranges has been changed to the input/output control, where input from the Okare gates must be equal to or greater than the input through the Ōhau channel (it was not possible to manage within the aspirational level range targets and the target has been simplified to now require management of the lake to a 100 mm range RL 279.100 to RL279.200 where possible while acknowledging that it will go outside that range during extreme wet or dry weather events),

3 Unnecessary conditions relating to a bund in the Ōhau channel and the weed spraying some beaches with herbicide have been removed (the bund requirement was included initially but turned out to be unnecessary due to a previous survey interpretation and the herbicide condition was in conflict with iwi sentiments on beach weed control), and

4 Add a new condition to allow a temporary drawdown to near the lowest lake level recorded. The drawdown will take place over a week. The level of drawdown is to RL 278.850 m, which is near the lowest recorded lake level of RL 278.826 m and is 250 mm below the target operational range.

The temporary drawdown (item 4.) turned out to be controversial within the local community, and so to avoid holding up all consent changes the items 1 to 3 were bundled into a separate consent change application. That part of the application has been completed and are contained in the new consent conditions. The remaining part of the application (item 4. the temporary draw down of the lake to about RL 278.850 m) was notified to people deemed to be affected by the proposal, and a hearing for the application is programmed for September 2022.

The temporary drawdown has come about from a long-standing desire by Ngāti Pikiao people to see the lake at a lower level, even for a short period to allow observation of matters significant to them as tangatawhenua. Council as the consent holder is attempting to facilitate this short drawdown event to allow for the necessary “low-lake-level” observations.

Part 2:
Actual distribution of lake levels against target distribution

2.1 Lake Rotoiti lake level distributions

The target distribution of the various lake level ranges from 2012 to 2020 is now redundant (Figure 3) as the water quality or the inflow/outflow relationship over-rides the aspirational or prescribed lake level parameters of that time.

The consented minimum and maximum lake levels are still retained but now with an annual focus to best maintain lake levels in the 'main operating range' of RL 279.10 m to RL 279.20 m.

It is important to note that low lake levels can only recover from a rain event and not by closing the Okere Gates down to 'less than' Ōhau Channel inflows.

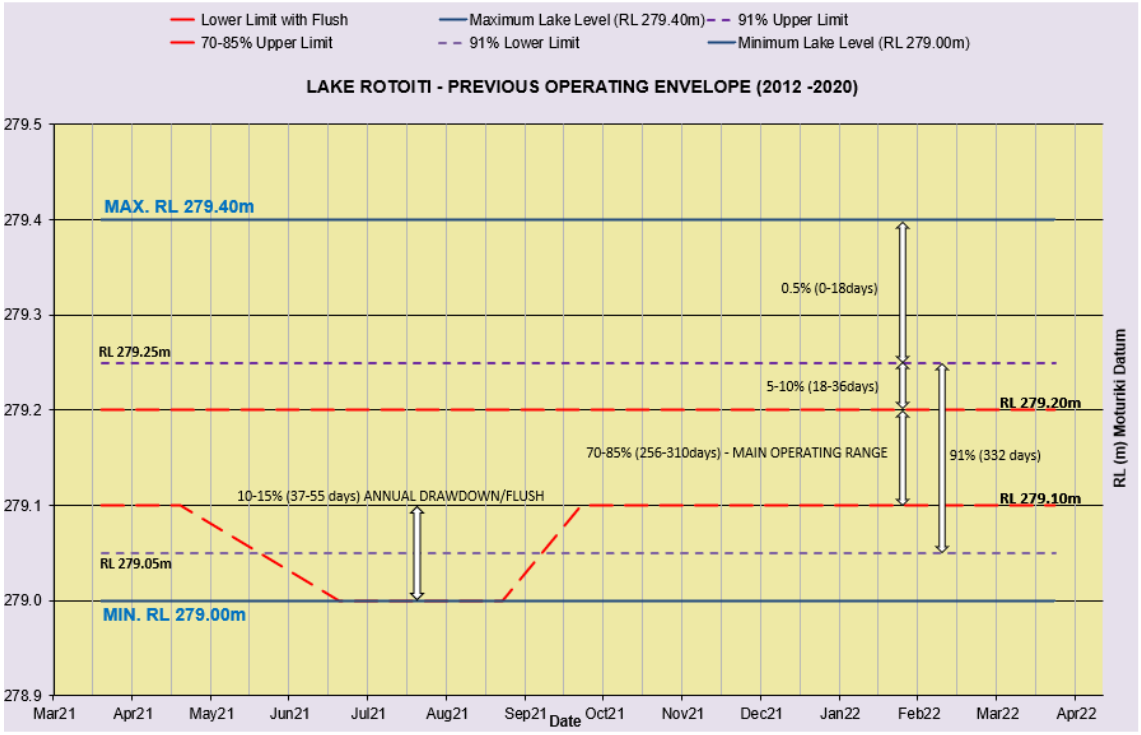


Figure 3 *Previous Lake Rotoiti operational envelope for annual reporting – target distributions.*

2.2 Data collection and management

Lake levels and flow rates are recorded continuously from HydroTel (BOPRC Telemetry and Environmental Data Management system).

HydroTel data is generally recorded at 15-minute intervals and data is extracted as a 'morning' spot reading and recorded in an 'operational spreadsheet' along with rainfall volumes, weather conditions with general commentary. A more comprehensive dataset can be extracted from the HydroTel archive for further analysis if required.

2.3 Lake Rotoiti

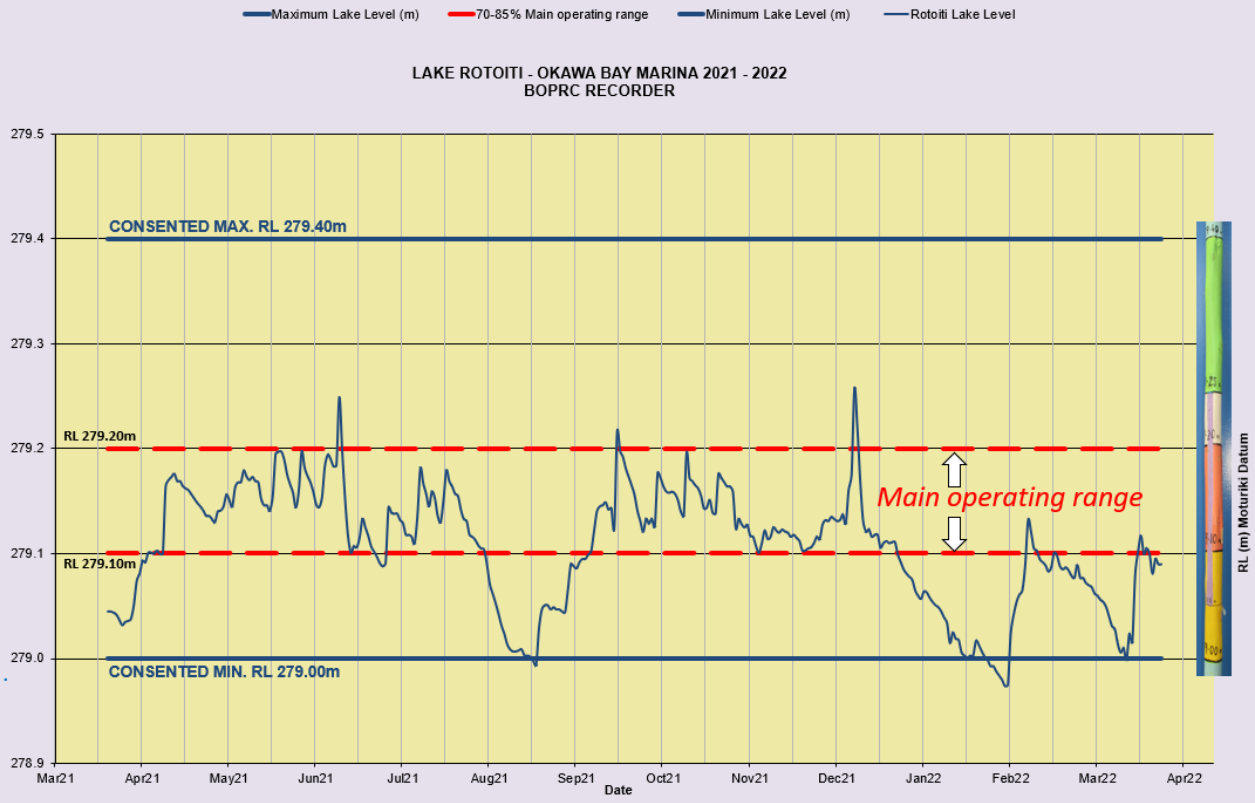


Figure 4 *Lake Rotoiti levels measured at Okawa Bay Marina from 1 April 2021 to 31 March 2022.*

Key observations:

- For this period, lake levels did not exceed the consented maximum of RL 279.40 m but fell below the consented minimum of RL 279.00 m for two days in August 2021 during the annual drawdown and again for eight days in February 2022. This was a direct result of low rainfall and inflows.
- Lake levels remained in the 'main or normal operating range' (RL 279.10 m – 279.20 m) for 224 days or 61% of the time.
- The annual 'formal' drawdown of Lake Rotoiti between May and October each year is now obsolete. This condition was removed as there was no flushing benefit of the Ōhau Channel recorded. It was thought the drawdown would increase channel velocities to mobilise sediments to increase capacity and potentially reduce flood risk. However, unprogrammed drawdowns were generally occuring during the summer months anyway as lake levels declined naturally through lack of rainfall and inflows.

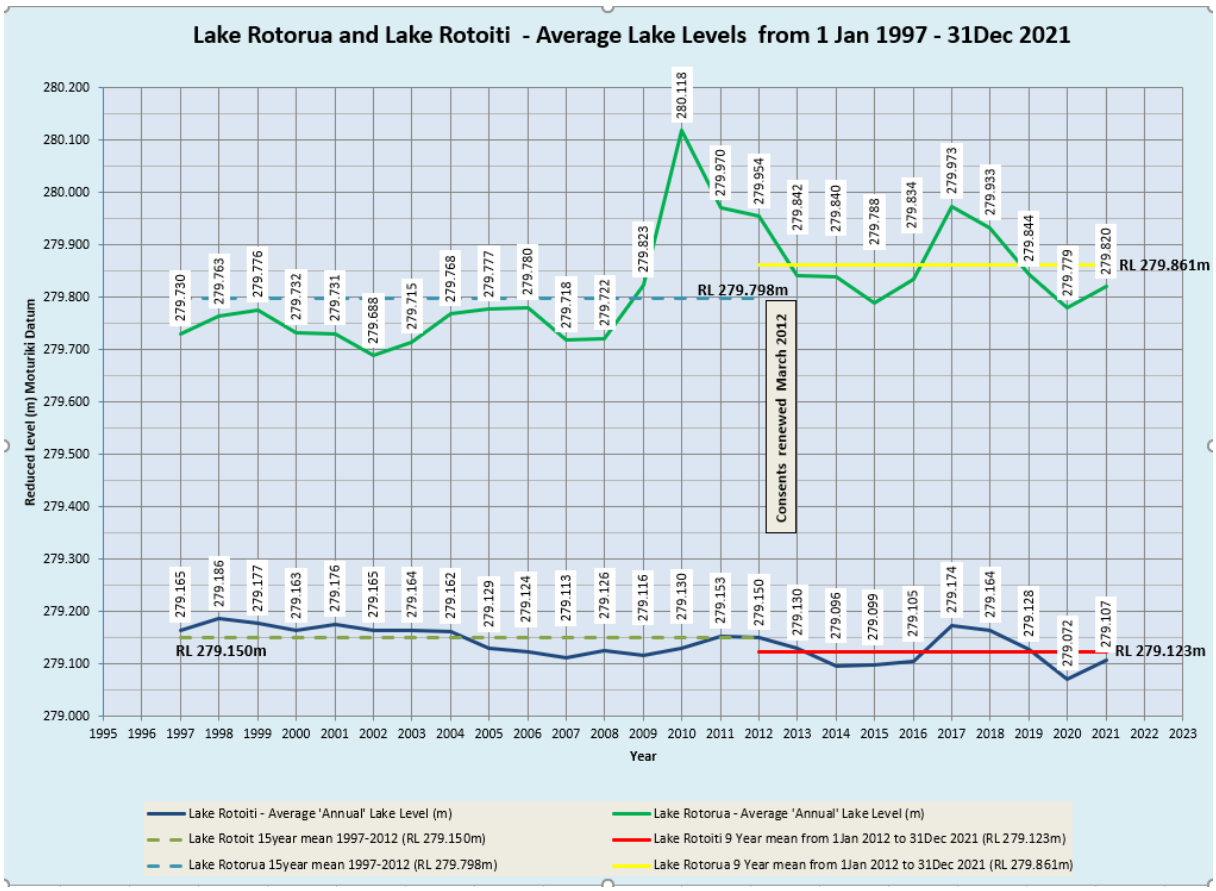


Figure 5 *Summarises average lake levels on Lake Rotorua and Lake Rotoiti from 1 January 1997 to 31 December 2021 (calendar years).*

Figure 5 above shows that since the issue of the new consent in 2012, Lake Rotoiti levels are on average, 0.027 m (red line) lower than pre-2012 levels (dashed green line) while Lake Rotorua levels are 0.063 m (yellow line) higher than pre-2012 levels (dashed blue line). This results from the two extensive wet periods centred around 2010 and 2017.

Higher levels in Lake Rotorua translates to higher water levels and flows in the Ōhau Channel potentially increasing flood risk to property, particularly around Mourea.

However, regardless of the high flows from Lake Rotorua, Lake Rotoiti levels are generally maintained/controlled, as outflows through the Okere Gates, are always greater than inflows. This requirement is covered in Consent 65979, Condition 7.4 (i) to prevent reflux or water entering Lake Rotoiti from Lake Rotorua. This is a priority condition that ultimately overides maintaining levels in Lake Rotoiti.

The Ohau Diversion Wall also supplements this process by directing Ōhau Channel flows directly into the Okere Arm and through the Okere Gates.

Figure 6 Lake Rotoiti at Hinehopu - Lake Level RL 279.090 m – 30 March 2022.

2.4 Lake Rotorua

Figure 8 below shows the 12-month lake level trace for Lake Rotorua from 1 April 2021 to 31 March 2022.

Notable observations are:

- For the 12-month period, lake levels remained within the consented maximum and minimum of RL 280.076 m and RL 279.466 m for 100% of the time.
- The highest recorded level this term was RL 280.001 m on 29 July 2021 or 0.075 m below the consented maximum.
- The lowest level recorded this term was RL 279.622 m on 19 March 2022 or 0.156 m above the consented minimum of RL 279.466 m.
- The Ohau Weir stoplogs were last installed on 17 October 2018 and have been in place now for nearly four years. This alone indicates a benign period of lower-than-average rainfall over the Rotorua Lakes Catchment.

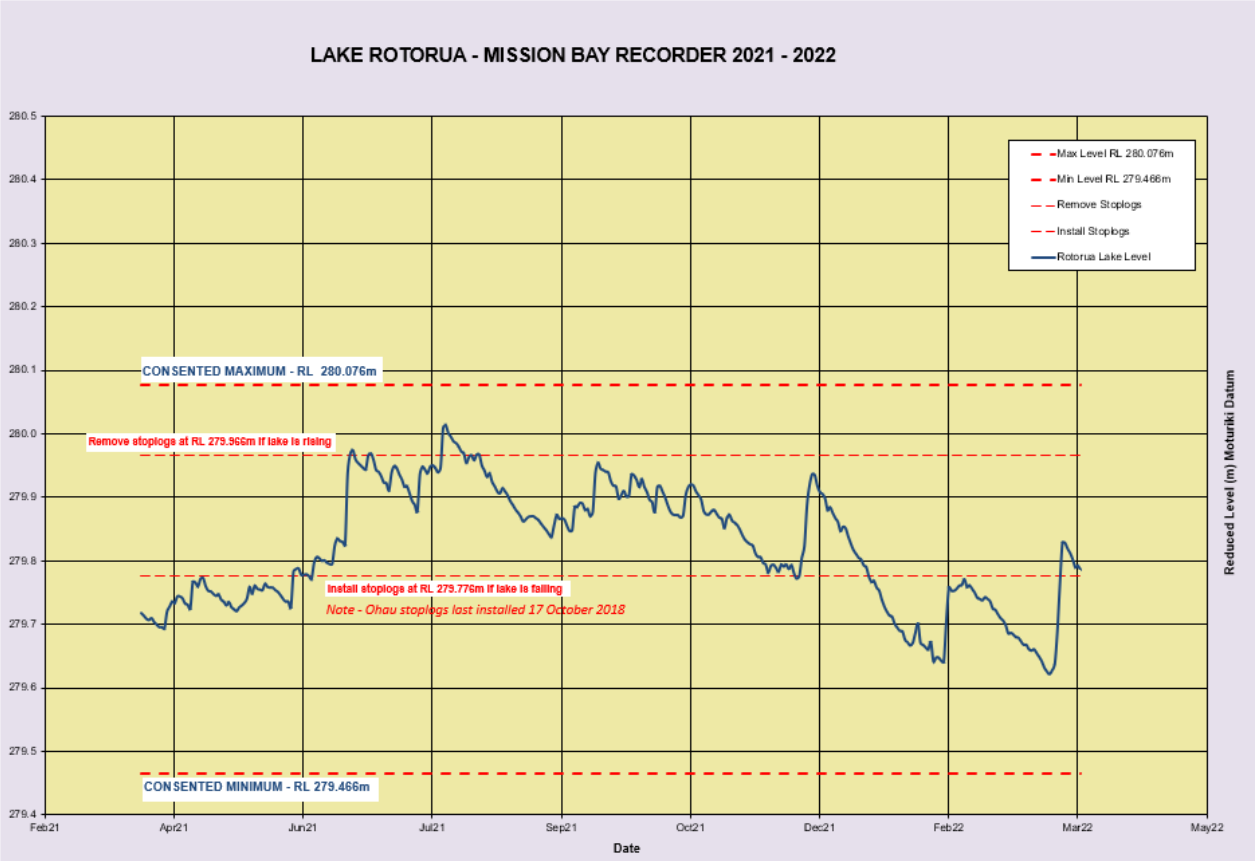


Figure 7 *Lake Rotorua levels measured at Mission Bay Recorder from 1 April 2021 to 31 March 2022.*

A photographic record together with staff gauge readings at the State Highway 33 bridge at Mourea is maintained to record the relationship between Lake Rotorua, Ōhau Channel and Lake Rotoiti water levels. This continues to provide better understanding of lake level influences on Ōhau Channel levels and flows, particularly during times of flooding around Mourea.

It is noted that the Ōhau Channel Weir provides minimal flood relief once maximum lake levels occur as the weir becomes drowned with no further relief mechanisms available.

The stoplogs perform best during low lake levels to decrease outflows to maintain lake levels.

Figure 8 Ohau Weir - Lake Rotorua – 30 March 2022

Figure 9 Ohau Channel stoplogs stored on site following refurbishment. Each stoplog (x3) is 6 m long x 0.3 m high.

Part 3:
Actual flow rates versus minimum flow rates

3.1 Consent number 65979 flow rate conditions

Operational limits 7.4(f) to (l) relate to flows through the Okere Gates and are specified in Consent conditions 65979. In summary these conditions require that except under extreme droughts or an emergency:

- A minimum river flow (7.9 cumecs) with a seven-day minimum of 9.84 cumecs.
- Greater outflows (Okere Gates) than inflows (Ōhau Channel) assisting to preserve water quality of Lake Rotoiti.
- Okere Gates ramping rates - closing (-5 cumecs/hour) or opening (+10 cumecs/hour) in consideration of riverbank stability downstream when flows fluctuate.
- Recreational river flows for rafting and kayaking to be provided wherever possible within the other limits of the consent.

Comments on performance follow in paragraph 3.3.1 discussion notes.

3.2 Monitoring

Flow rates on the Ōhau Channel and Okere Gates are monitored by telemetry using NIWA's lake level recorder at Mission Bay on Lake Rotorua and the Taaheke River gauge station on the Kaituna River, located approximately 3 km downstream of the Okere Gates. Flow values are accurate to +/-8% of any given reading but for the purposes of management, the given reading at any time is recorded as the measured flow.

A consent priority (RC 65979/7.4.i) is maintaining greater outflow (Okere Gates) than inflow (Ōhau Channel) to prevent reflux around the downstream end of the Ohau Diversion Wall. This important measure assists in maintaining the water quality of Lake Rotoiti.

3.3 Results

Flow rates for the Ōhau Channel (inflows in blue) and Kaituna River @ Taaheke (outflows in red) as recorded in the 'daily operational spreadsheet' are shown in Figure 11 below.

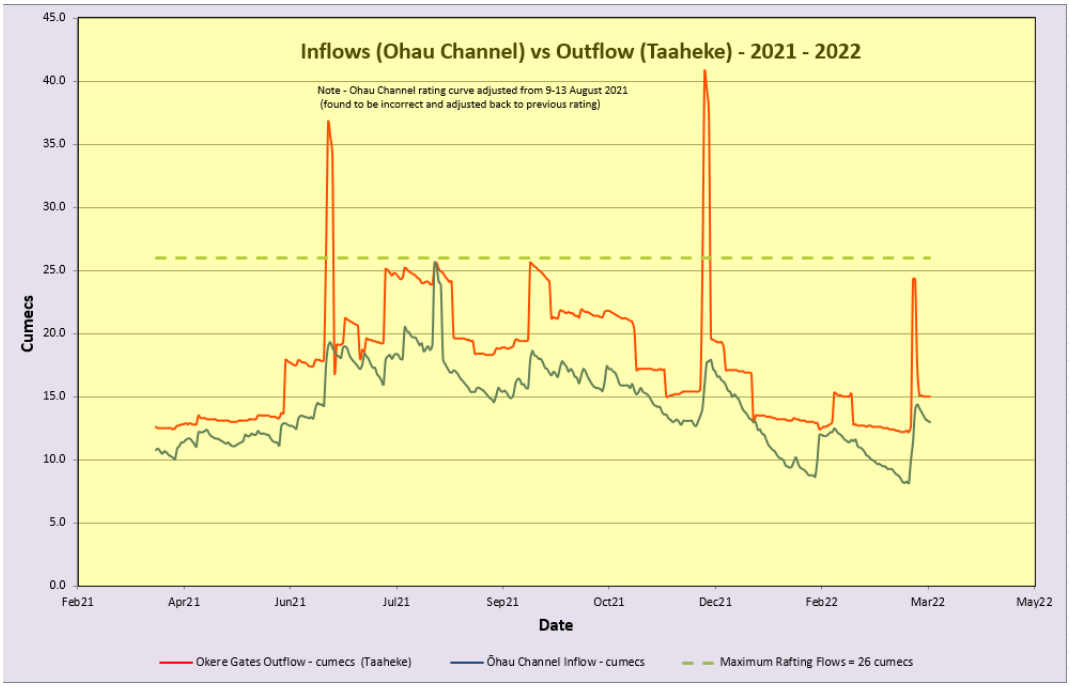


Figure 10 Lake Rotoiti inflow - Ōhau Channel (blue) and Okere Gates outflow - Kaituna River (red) - 1 April 2021 to 31 March 2022.

For interpretation of Figure 10 above, Kaituna River outflows (in red) are required to be higher than Ōhau Channel inflows (in blue) to satisfy the water quality equation – Outflows are greater than Inflows.

A more comprehensive and continuous record from the HydroTel archive is also shown below in Figures 11 and Figure 12 to show the six-hourly and seven-day flow averages. Flow requirements have been summarised in Table 1.

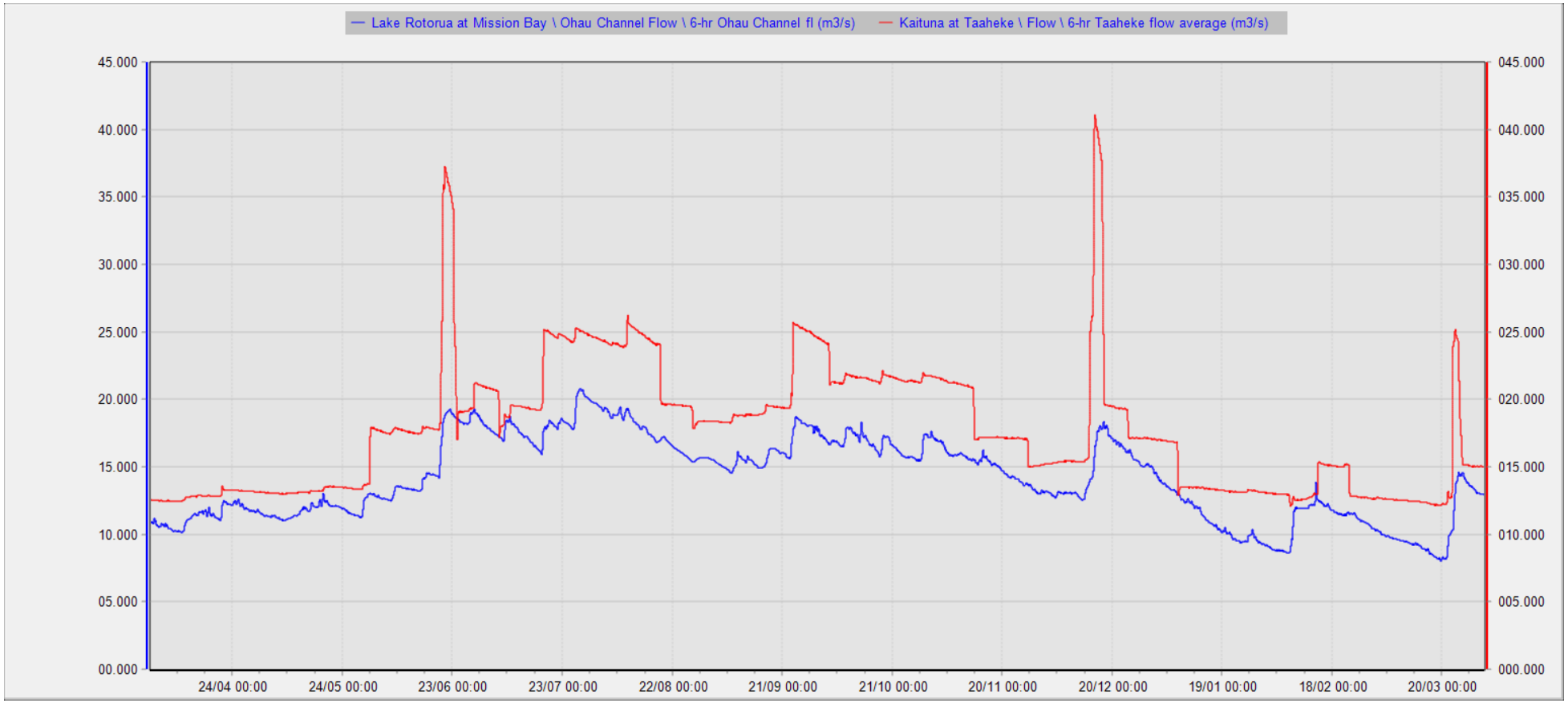


Figure 11 HydroTel summary of Ōhau Channel (blue) and Kaituna River (red) flow rates – six-hourly averages - 1 April 2021 to 31 March 2022.

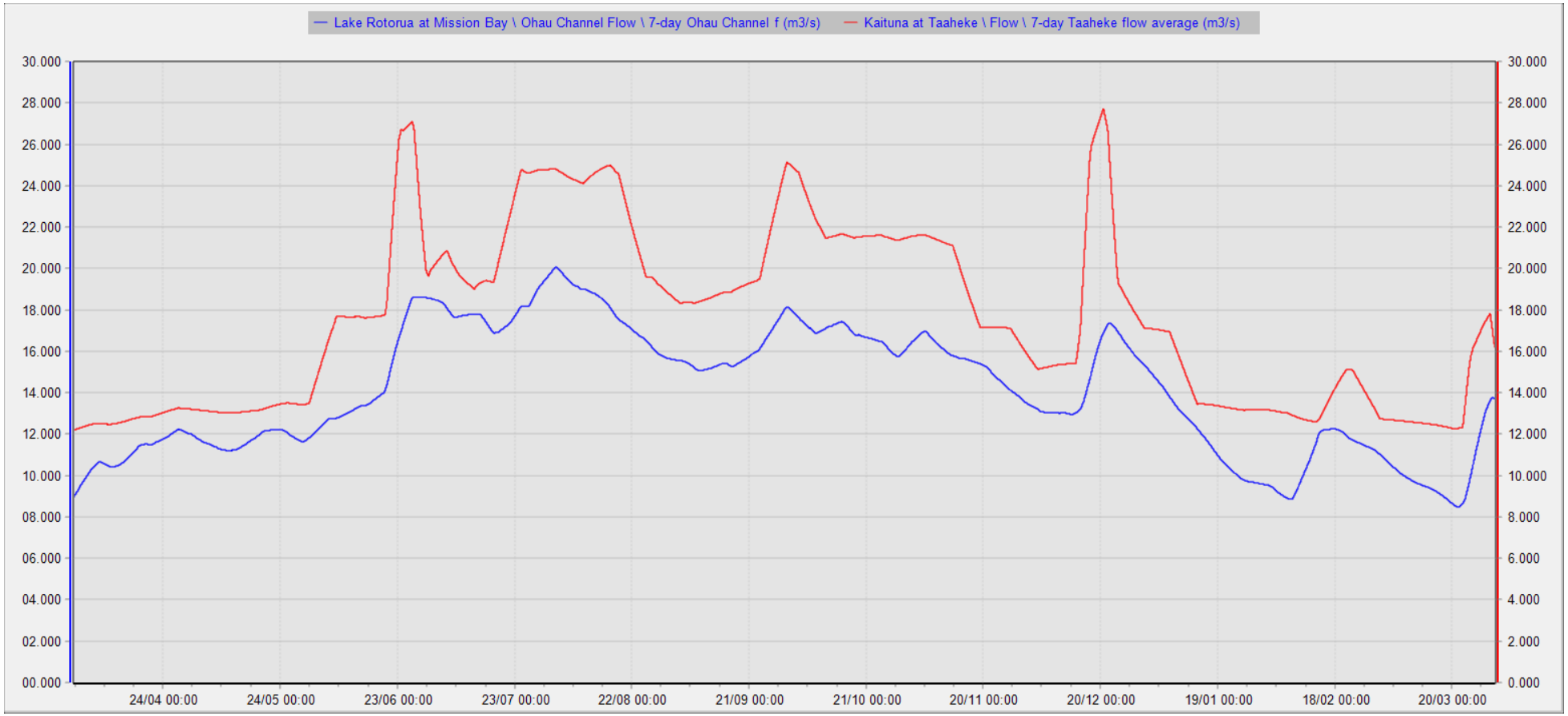


Figure 12 HydroTel summary of Ōhau Channel (blue) and Kaituna River (red) flow rates – seven day averages - 1 April 2021 to 31 March 2022.

Table 1 Okere Gate flow distributions from 1 April 2021 to 31 March 2022.

Consent #65979 Okere Gates			Results		Variation from requirement	
Condition	**Flow requirement** (m^3/s)	**Target distribution** (per calendar year)	**Consent evaluation period** 1 April 2021 to 31 March 2022			
			Days	**%**	**Incident date**	**Comment**
7.4(f)(i)	Kaituna River - six-hourly average flow of not less than 7.9 m^3/s. (Figure 12 – red trace)	100%	365	100	None	Minimum flow recorded = 12.2 cumecs from 17-21 March 2022.
7.4(f)(ii)	Kaituna River - seven day rolling average flow of not less than 9.84 m^3/s. (Figure 13 – red trace)	100%	365	100	None	Minimum flow recorded =12.2 cumecs on 1 April 2021.
7.4(i)	Six-hourly average outflow through gates > six-hourly average inflow from Ōhau Channel. (Figure 12 – blue trace)	100%	365	100	None	Minimum flow recorded =8.1 cumecs on 19 March 2022. *Any infringements are notified by alarm and gates adjusted immediately to correct.
7.4(j)(i).	When opening the gates, a maximum flow increment of 10 m^3/s per hour.	100%	365	100	None	Gates were opened and closed in accordance to consent conditions – all operations are recorded in daily operating spreadsheet.
7.4(j)(ii)(a)	When closing the gates, a maximum flow decrement of 5 m^3/s per hour when operating the Okere Gates below 30 m^3/s.	100%	365	100	None	Gates were opened and closed in accordance to consent conditions – all operations are recorded in daily operating spreadsheet.
7.4(j)(ii)(b)	A maximum flow decrement of 10 m^3/s per hour when operating the Okere Gates at or above 30 m^3/s.	100%	365	100	None	Gates were opened and closed in accordance to consent conditions – all operations are recorded in daily operational spreadsheet.

3.3.1 Discussion

Okere Gate minimum flow rates usually occur during the summer months when rainfall, inflows and lake levels tend to be low.

The minimum Kaituna River/Okere Gate flow for this reporting period was 12.2 cumecs occurring between 17 March 2022 to 21 March 2022. The minimum allowable flow is 7.9 cumecs being the ecological minimum for river wellbeing.

The minimum Ōhau Channel flow for this reporting period was 8.1 cumecs on 19 March 2022. Channel flows are derived by a rating curve determined from lake levels measured at the Mission Bay Recorder with flows accurate to +/-8%.

The Kaituna River seven-day minimum flow was 12.2 cumecs on 1 April 2021 while the Ōhau Channel seven-day minimum flow was 8.5 cumecs on 21 March 2022.

Okere Gates outflows were greater than Ōhau Channel inflows for 100% of the time. When outflows through Okere Gates are less than inflows from Ohau Channel, an alarm is issued advising the operator. The operator will assess the situation and open the Okere Gates further to increase outflows. During the summer months, the higher release of Rotoiti lake water will compromise lake levels as water quality is maintained – Consent 65979: Condition 7.4 (h-i).

Okere Gate ramping increments (change in flow rate per hour) were maintained 100% of the time as gates were adjusted in transitional stages (10 cumecs/hour when opening and 5 cumecs/hour when closing). This data is recorded in the daily operational spreadsheet for record.

Recreational flows – Kaituna River:

- A requirement of consent condition 7.4(l) is to facilitate recreational flows for Kaituna River activities wherever practical.
- Rafting flows are achieved inside the 13-26 cumec range or at gate settings of 3 @ 200 and 3 @ 500 respectively. These ‘commercial’ flows have been determined by Maritime New Zealand. When Ōhau Channel inflows exceed 26 cumecs, rafting will cease on the Kaituna River as a greater flow is released through the Okere Gates (outflow>inflow).
- Every reasonable effort is made to accommodate rafting flows while maintaining consent conditions. Communications are regularly maintained to advise and assist the rafting community with planning and schedules.
- For this reporting period, Kaituna River flows were available to rafting for 360 days (98.6% of year). However, only 325 of those days were raftable as 35 days were lost to Covid Level 4 and 3 restrictions.

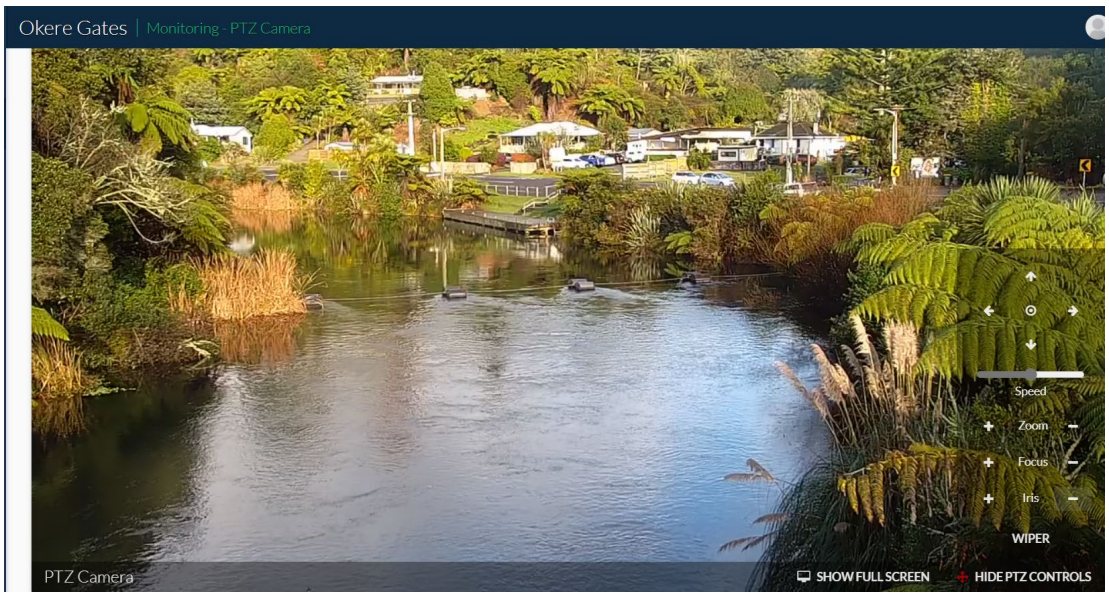


Figure 13 Fixed camera view from Okere Gates looking upstream.

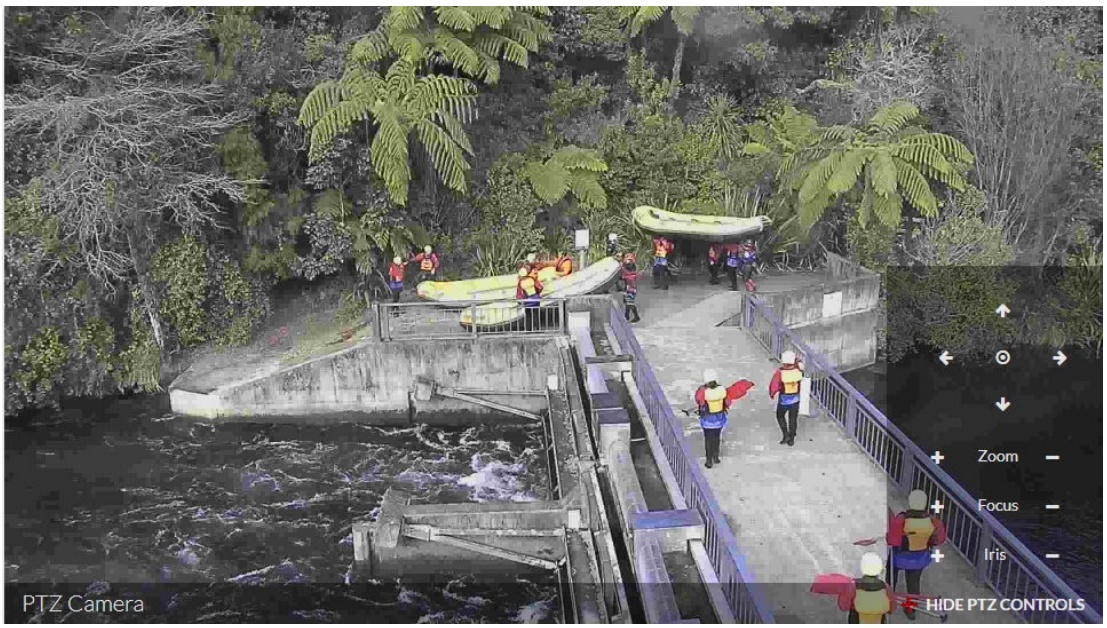


Figure 14 Rafters preparing to enter the Kaituna River from Okere Gates structure.

Part 4:
Operational difficulties

4.1 Discussion

Operationally, there were no difficulties to report this term.

Okere Gates - The Okere Gates Structure underwent a full refurbishment in 2020 The radial gates were resurfaced, lifting ropes and fastenings replaced, motors and bearings serviced, and a full system re-calibration completed at conclusion of the works.

Ohau Weir - There were minor issues in removing and installing the Ōhau Channel stoplogs in October 2018, after the vertical slots that house the stoplogs had been partially damaged by boat impacts. The weir remains functional while repair options are being considered to repair or repace damaged components.

The general difficulty each year is holding lake levels within their consented ranges, but these are more environmental than operational. This term was particularly dry as low rainfall and inflows persisted across the lake's catchments, streams and regional rivers.

Part 5:
Consultation with stakeholders

5.1 Background – establishment of liaison and Kaitiaki groups

Under the conditions of these consents, the Consent Holder was initially tasked with facilitating the establishment of a liaison group and two Kaitiaki groups within three months of the commencement of the consent. The purpose of the groups is to essentially facilitate discussion and free flow of information between the Consent Holder and the community.

These groups are:

- Rotorua Te Arawa Lakes Operational Liaison Group (RTALOLG)
- Ohau ki Rotoiti Kaitiaki Group (OKRKG)
- Okere ki Kaituna Kaitiaki Group (OKKKG).

The Consent Holder is required to convene a meeting each year with the two Kaitiaki groups, if requested, and with the RTALOLG at least annually in the first three years and thereafter at least every third year.

For this period, groups held their Annual General Meetings on:

- RTALOLG — 5 August 2021
- Okere ki Kaituna Kaitiaki Group — No meeting but invited to RTALOLG
- Ohau ki Rotoiti Kaitiaki Group — No meeting but invited to RTALOLG

Bay of Plenty Regional Council facilitated the RTALOLG meeting and presented the 2020/2021 Okere/Ohau Annual Report. Meeting minutes were recorded and were made available to the group Chair and its members.

Both Kaitiaki Groups were required to submit Cultural Management Plans (CMP) to the Consent Holder within three years of the commencement of this consent.

Both Tapuika and Ngāti Pikiao have presented their respective Cultural Management Plans for consideration.

Ngāti Pikiao have also presented their CMP to the local Rotoiti community at a meeting in 2017. Many of the issues raised in their CMP have been resolved directly with BOPRC staff and actions taken.

The ongoing level of Lake Rotoiti remains a concern to Ngāti Pikiao and they have presented to the Rotorua Te Arawa Lakes Operational Liaison Group (RTALOLG), their expectations with respect to trialling an alternative management regime.

Bay of Plenty Regional Council continue to work with Ngāti Pikiao Environmental Society and RTALOLG members to present a ‘proposed temporary drawdown’ to trial lower lake levels on Lake Rotoiti.

At this stage, a hearing is scheduled in June 2022 to present the ‘proposed temporary drawdown’ proposal and hear submiisions.

Every effort has been made to maintain regular communication with all stakeholders.

Stakeholders include:

- Bay of Plenty Regional Council flood managers – Lake level and flow conditions
- Iwi – Information requests and inquiries
- Residents – Response to enquiries
- Rafters – Forecasts, gate settings and river flows
- Rotorua tourism operators – Lakefront issues
- Media – Situation reports.

Part 6:
Complaints and investigations

6.1 Complaint summary – 1 April 2021 to 31 March 2022

There were no 'formal' complaints received this term.

Date	By	Concern	Action	Result
x	x	x	x	x

Concerns (other):

Typical concerns expressed are:

- Low lake levels during summer
- Rafting constraints on the Kaituna River.

There were no formal flood complaints reported for this 12 month period.

Concerns or issues are addressed quickly either in writing or phone conversation. If the concern esculates to a complaint, this would be directed to the Regulatory Authority for record and action.

The Consent Holder posts regular updates to the '@Okere Gates-Kaituna River Rafting' Group advising on:

- Lake levels
- Okere Gate settings
- Flow rates for Ōhau Channel and Kaituna River
- Met Service forecasts and warnings
- Programmed activities.

6.2 Investigations and monitoring

Investigations completed or programmed to meet conditions of the consents are shown in Table 2 below:

Table 2 Investigations and monitoring completed or in progress.

Investigation	Consent 65979 Condition No.	Location	Issue	Progress
Flood mitigation and beach vegetation	12	Mourea/Ōhau Channel Hinehopu and Te Rauto Bay	Flooding Narrow beaches	12.2 Bunding no longer required as ground levels found to meet design criteria. 12.3 Apply herbicide to Hinehopu and Te Rauto beaches. These two conditions have now been removed from the consent.
Velocity monitoring	13.2	Ōhau Channel	Maintain fish migration during flush (Fish & Game New Zealand)	Results continue to show no increase in Ōhau Channel velocities during annual drawdown of Lake Rotoiti. May consider removing this condition following consultation with Fish and Game New Zealand.
Lake level/ staff gauge monitoring and settlement	8	Hinehopu, Gisborne Point Okawa Bay Te Akau Bay	Monitor settlement	Ongoing. Lake staff gauges read monthly, and record maintained to calibrate against Okawa Bay Recorder Tower.

6.2.1 Condition 13.2 - Ohau Channel cross sections and velocity monitoring

Ōhau Channel cross sections are undertaken annually at 15 locations shown in Figure 16 to monitor bed levels following the flush each year.

Figure 15 Ohau Channel cross section locations.

Several years of survey monitoring indicate that the Ōhau Channel is reasonably stable with no significant changes occurring since introducing the annual drawdown of Lake Rotoiti in 2012.

Cross Section surveys continue to show that the normal processes of erosion and aggradation are occurring naturally within the Ohau Channel despite the flush. Data analysis indicates a generally stable environment with only minor changes occurring through the Ōhau Channel reach. There was no survey undertaken this period.

One purpose of the lake level drawdown or flush ‘was’ to theoretically increase channel velocities to encourage mobilisation of sediments to increase capacity therefore reducing flood risk.

The ‘annual flush’ has now been removed from the consent as the flush target of RL 279.000m was generally being achieved each summer anyway as lake levels declined naturally.

Figure 16 below shows an example of cross section 10 located aproxiamately 100 m downstream of the Ohau Weir and indicates little change in channel profile.

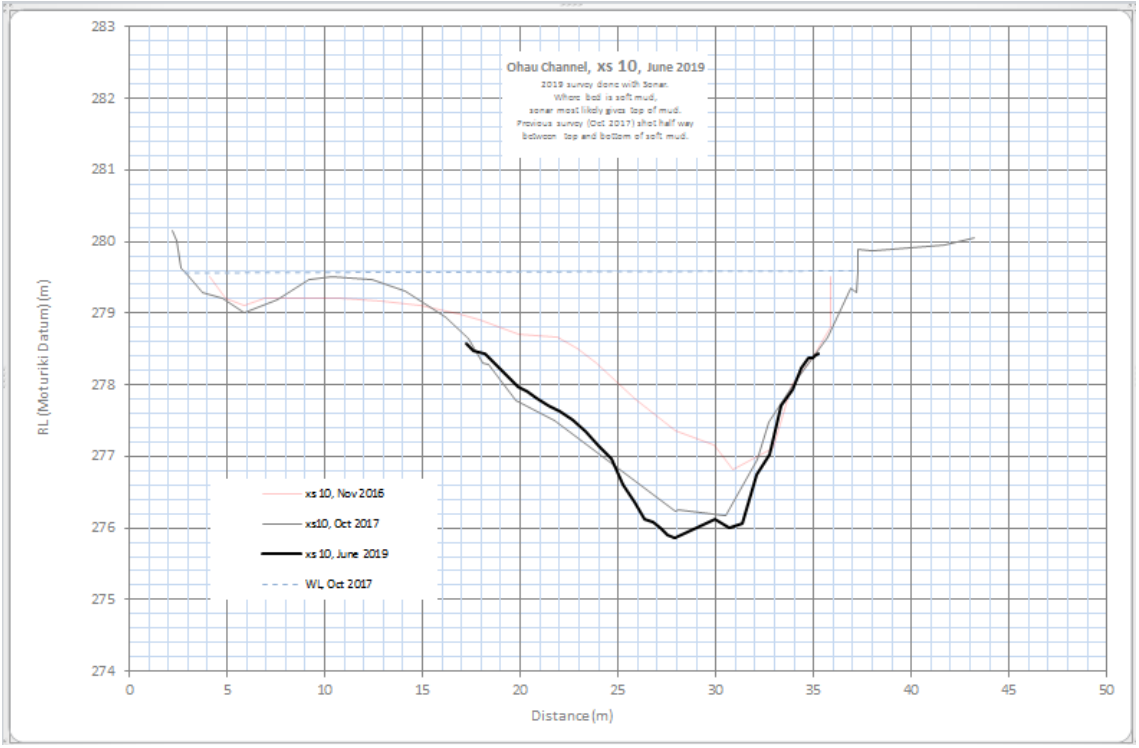


Figure 16 Cross section number 10 located downstream of the Ohau Weir – November 2016 to June 2019 (next survey scheduled 2022).

In July 2012, a staff gauge was fitted to the Ōhau Channel/State Highway 33 Bridge (Figure 18) to monitor the relationship between Lake Rotorua, Ōhau Channel and Lake Rotoiti water levels.

Following nine years of monitoring, the dominant influence on Ōhau Channel water levels at Mourea are Lake Rotorua levels. This observation was particularly evident during the 2014 drawdown phase when Lake Rotorua and Ōhau Channel levels remained high, while Lake Rotoiti was drawn down to RL 278.994 m on 9 July 2014 or just below its consented minimum of RL 279.00 m.

Figure 17 Ohau Channel Staff Gauge on State Highway 33 Bridge – Mourea.

6.2.2 Ohau Channel Delta monitoring

A survey of the Ohau Channel was completed in June 2019 to assess any change in delta size since the previous survey in 2015.

In Figure 18 below, results show some growth in the delta along the eastern flank closest to the Ohau Diversion Wall. The northern edge has extended a further 20 m downstream since the 2015 survey indicating sedimentation processes are continuing. The next delta survey is programmed in 2022.

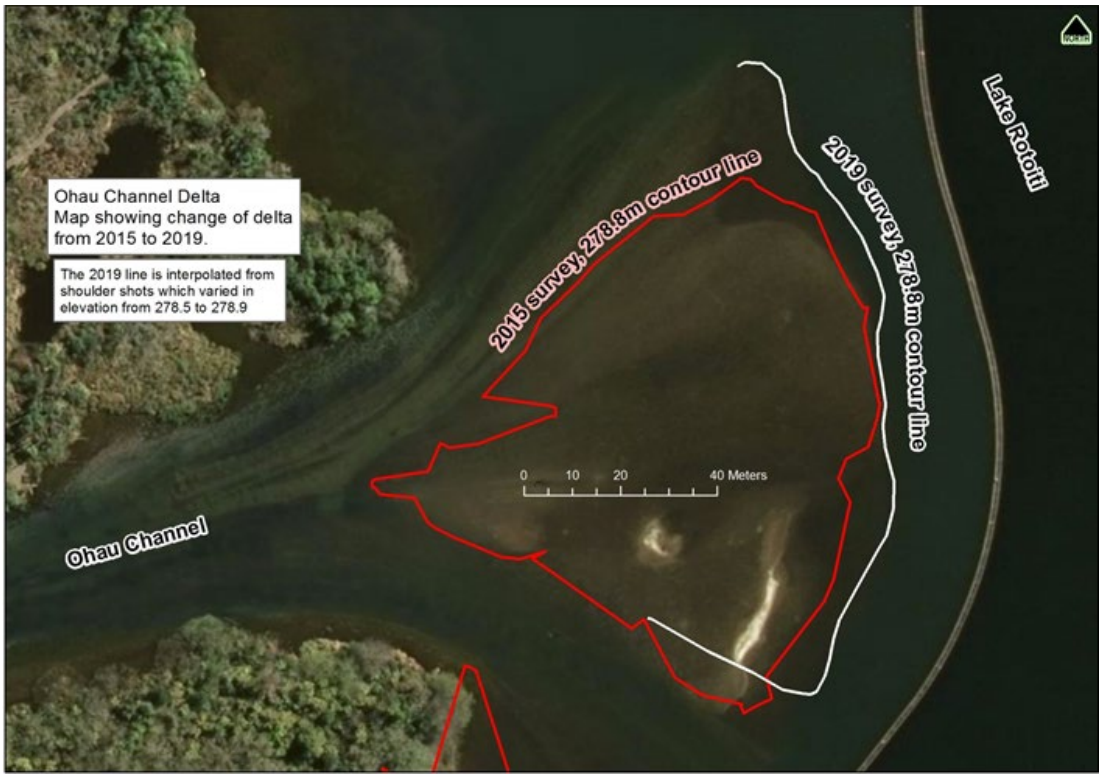


Figure 18 Ohau Channel Delta – June 2019.

6.2.3 Annual reporting – RC 65979 Condition 15 and RC 65980 Condition 12

The annual reporting date has been bought forward from 31 August to 1 June each year to better align with the anniversary of the consent renewal in March 2012 and the operating year from 1 April to 31 March.

Part 7:
Conclusion

Consents 65979 and 65980 have now been operational for over nine years since the issue of the renewed consents in March 2012.

Some of those conditions have now been removed or amended in 2020 to better reflect the operational aspects of the consent. However, a proposal to draw Lake Rotoiti down below the current consented minimum in a ‘one off exercise’ remains before Council with a hearing date set for September 2022.

The biggest driver for Lake Rotoiti level management is water quality followed by water levels. The operational regime of these consents compliments the Rotorua Lakes Programme to improve water quality in Lake Rotoiti by ensuring outflows through the Okere Gates (Kaituna River) are always greater than inflows from the Ōhau Channel (Lake Rotorua).

Various monitoring programmes continue around the lakes and Ōhau Channel and provide valuable information for both Consent Holder and stakeholders in understanding lake dynamics and environmental effects.

The Consent Holder continues to maintain frequent communications and maintain the free flow of information with consent stakeholders at all times.

2021/2022 has been a particularly dry year with long periods of little rainfall and low catchment flows. It therefore was difficult to maintain desirable lake levels at times as lake levels declined. While low lake may have been inconvenient at times to some stakeholders, no major issues were reported. The Consent Holder responded to concerns quickly and kept its regulatory arm informed of any non-compliant issues (if any).

The Annual General Meeting between the Consent Holder, RTALOLG and the two Kaitiaki groups continues to be a good opportunity to present the annual report and discuss any performance issues with the consent.

The Consent Holder also acknowledges the Regional Council’s Regulatory Arm to ensure both consents are managed in accordance with all 76 consent conditions.

The Consent Holder deems that it has fulfilled its management and operational obligations for the 2020/2021 consent period as recorded in this annual report.

Appendices

Appendix 1:
Consent conditions

ANNEXURE B

BAY OF PLENTY REGIONAL COUNCIL

Resource Consent 65979

Consent Holder: **Bay of Plenty Regional Council (Rivers and Drainage Group)**

Address: **PO Box 364**
Whakatane

Resource consent to:

(i) Use and maintain a control structure, being the Okere Control Gates, at the outlet of Lake Rotoiti; and

(ii) Dam the outlet of Lake Rotoiti, being at or about map reference NZMS 260 U15039485; and

(iii) Artificially control the water levels in Lake Rotoiti; and

(iv) Discharge water from Lake Rotoiti to the Kaituna River through the Okere Control Gates.

Conditions attaching to Resource Consent 65979

1. PROCEED IN ACCORDANCE WITH APPLICATION, EXCEPT AS MODIFIED BY CONDITIONS

The Proposal shall proceed in accordance with the Application, including:

i. The Resource Consent Application and Assessment of Environmental Effects for the Okere Gates and Ohau Channel Weir prepared by Opus international Consultants Limited, referenced as 289030.07, dated September 2010, including all appendices attached to the Application.

ii. The further information entitled *Resource Consents 65979 and 65980: Consent Structures and Operating Levels for Lake Rotorua and Rotoiti – Response to s92 Request dated 23 September 2010,* prepared by the Project Manager, Okere Gates and Ohau Weir Consent Project dated 22 October 2010, including all appendices.

iii. Application for variation to Resource Consents 65979 and 65980: Consent Structures and Operating Levels for Lake Rotorua and Rotoiti (Revised 19th December 2020), including all appendices.

except as modified by the conditions set out in this consent.

MHH-133911-229-1-V3:mhh

2. PURPOSE

To allow for the continued use of the Okere Gates control structure on the bed of the Kaituna River at the outlet of Lake Rotoiti and to control the water level of Lake Rotoiti with the objective of minimising water level fluctuations on Lake Rotoiti.

3. LOCATION

The structure shall be located at the outlet to Lake Rotoiti as shown in BOPRC plan numbers RC65979/1 (BOPCC K 4294 sheet number 1/22), RC65979/2 (BOPCC K 4294 sheet number 6/22), RC65979/3 (BOPCC K 4294 sheet number 7/22), RC65979/4 (BOPCC K 4294 sheet number 9/22), RC65979/5 (BOPCC K 4294 sheet number 16/22) and RC65979/6 (BOPCC K 4294 sheet number 18/22).

4. MAP REFERENCE

The structure shall be located at or about map reference NZMS 260 U15 039 485.

5. OKERE GATES CONTROL STRUCTURE

The existing control structure shall be retained. It shall consist of:

5.1 A concrete dam structure incorporating three radial control gates.

5.2 Gate opening sill level 277.526 m above Moturiki Datum.

All levels shall be relative to the Rotorua Fundamental Benchmark Survey 1997.

6. STRUCTURE AND MAINTENANCE

6.1 The Consent holder shall maintain the control structure in accordance with the requirements of the Rivers and Drainage Group Asset Management Plan (AMP). The Consent holder shall monitor the control structure for erosion and structural damage on a regular basis, maintain a record of such inspections and repair actions and make that record available for inspection by the Chief Executive of the Bay of Plenty Regional Council or delegate within 24 hours of a written request being made to review it.

6.2 The consent holder shall repair any structural or erosion damage to the Okere Arm lake edges or Kaituna River banks within 30 metres of the Okere Gates caused by the exercise of this consent. The repair shall be undertaken within 10 working days of the consent holder becoming aware of any damage or repair required.

7. LAKE ROTOITI LEVEL MANAGEMENT

Operational Management Plan

7.1 Within one month of the commencement of this consent, the consent holder shall submit an Operational Management Plan to the Chief Executive of the Bay of Plenty Regional Council or delegate.

7.2 The Operational Management Plan shall contain details of the procedures that shall be implemented for the operation of the Okere Gates in accordance with the conditions of this resource consent, and as a minimum, shall address the following matters:

a) A description of how the structure operates;

b) The methods and guidelines for achieving the following:

i the distribution of lake levels contained in the Lake Rotoiti Operational Strategy as set out in Condition 7.4 of this consent;

ii the Okere Gates settings required to manage the levels of Lake Rotoiti for each month of the year; and

iii. any relevant other methods and/or guidelines for achieving compliance with the target lake level ranges set out in Condition 7.4 of this consent.

d) Plans of the Okere Gates control structure;

e) A description of routine inspection and maintenance procedures to be undertaken with respect to the Okere Gates;

f) A description of monitoring, including location of water level monitoring devices and record keeping of all monitoring;

g) A description of methods to address potential public and site personnel safety issues associated with the operation of the Okere Gates , including subsequent changes in levels for Lake Rotoiti and flows in the Kaituna River (which may include use of signage, electronic media and establishing and maintaining a text messaging database).

h) A description of procedures for reporting on the operation of the Okere Gates, with particular regard to the requirements of this consent and the target lake level ranges and flows to the Bay of Plenty Regional Council and key stakeholder groups;

i) A description of how any difficulties or unforeseen circumstances affecting the successful operation of the Okere Gates and lakes levels will

be reported to the Bay of Plenty Regional Council and key stakeholder groups, and how such difficulties or circumstances will be addressed.

7.3 The Operational Management Plan may be reviewed and updated by the consent holder from time to time. The consent holder shall provide a copy of the reviewed and updated Operational Management Plan to the Chief Executive of the Bay of Plenty Regional Council or delegate.

Operational limits

7.4 The control structure shall be operated in accordance with an Operational Management Plan as provided in Condition 7.1 above, subject to the following restrictions:

a. The Okere Gates control structure shall be operated so that the minimum lake level is no less than RL279.00m (to Moturiki Datum) and the maximum lake level is no greater than RL 279.40m (to Moturiki Datum).

b. Subject to Condition 7.4(h), the water level of Lake Rotoiti shall, where practicable be managed to maintain the Lake level within the range of RL279.10m to RL279.20m. If the lake level falls below RL279.10m, outflow through the Okere Gates shall continue to be managed in accordance with Conditions 7.4(f) and 7.4(h).

d. If, as a result of extreme weather, the target range set out in Condition 7.4(b) cannot be acheived, the lake level shall be controlled within the minimum and maximum levels set out in Condition 7.4(a) of this consent.

e. After 12 months of the exercise of this consent, the consent holder may undertake a decremental variation of the time spent above RL 279.20m to between 0% and 5% of the time for each calendar year, if that is considered by the consent holder to be an appropriate mitigation measure to address groundwater issues at Hinehopu as provided for in condition 14 of this consent.

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e. If, as a result of extreme weather, the target range set out in Condition 7.4(b) cannot be achieved, the lake level shall be controlled within the minimum and maximum levels set out in Condition 7.4(a) of this consent.

f. Except in the circumstances described in 7.4(g), flow rates from the Okere Gates shall not drop below:

   i. A 6 hourly average flow of $7.9m^3/s$; and

   ii. A seven-day rolling average flow of $9.84m^3/s$.

g. Flows may only drop below the flow rates specified in 7.4(f) in extreme droughts or when the Okere Gates are closed as a result of an emergency.

h. Maintaining minimum flows specified in Condition 7.4(f) shall take precedence over maintaining minimum lake levels set out in Condition 7.4(b).

i. During the operation of the Okere Gates, the 6 hourly average outflow of water through the gates must be equal to, or greater than the 6 hourly average inflow of water from the Ohau Channel.

j. When operating the Okere Gates, ramping rates for opening and closing the gates shall be as follows, except when the flow rate falls below $15m^3/s$ as specified in condition 7.4(k):

   i. when opening the gates (i.e. increasing flows), a maximum flow increment of $10m^3/s$ in any one hour period; and

   ii. when closing the gates (i.e. decreasing flows):

      (a) a maximum flow decrement of $5m^3/s$ in any one hour period when operating the Okere Gates below $30m^3/s$; and

      (b) a maximum flow decrement of $10m^3/s$ in any one hour when operating the Okere Gates at or above $30m^3/s$.

k. Except in the circumstances described in condition 7.4(g), the maximum ramping rates for the Okere Gates when the flow rate falls below $15m^3/s$ shall be a maximum increment or decrement of $4m^3/s$ in any 6 hour period.

l. Subject to compliance with conditions 7.4 (a) to 7.4(k), the consent holder shall operate the Okere Gates so as to provide recreational flows for rafting and kayaking in the Kaituna River. The magnitude and duration of the recreational flows shall be determined by the consent holder following consultation with the RTALOLG established under condition 11.1 of this consent.

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8. LAKE LEVEL MONITORING

8.1 For the purpose of this condition "lake level" shall mean lake level as recorded by eliminating the effect of wave action.

8.2 The consent holder shall monitor the lake level of Lake Rotoiti to an accuracy of +/- 10mm at the Bay of Plenty Regional Council's Okawa Bay level gauge. Levels shall be relative to Moturiki Datum and the Rotorua Fundamental survey benchmark.

8.3 The consent holder shall maintain a continuous record of lake level readings with any changes to data annotated and available on request by the Chief Executive of the Bay of Plenty Regional Council, or delegate, for consent monitoring purposes.

9. OHAU KI ROTOITI KAITIAKI GROUP

9.1 Within three months of the commencement of this consent, the consent holder shall facilitate the establishment of the Ohau ki Rotoiti Kaitiaki Group by invitation to each of the following (or their successors):

a. Ngati Pikiao;

b. Te Arawa Lakes Trust; and

c. Other relevant Tangata Whenua having an interest in the Ohau Channel and Lake Rotoiti for the purposes of s.6(e) of the Resource Management Act 1991 and listed in Schedule 1 to this consent.

9.2 The purpose of the Ohau ki Rotoiti Kaitiaki Group is to:

a. Facilitate discussion and free flow of information between the consent holder and the kaitiaki of Lake Rotoiti, Lake Rotorua, and the Ohau Channel on the environmental and cultural effects of the activities authorised by this consent;

b. Facilitate discussion and free flow of information with the Okere ki Kaituna Kaitiaki Group;

c. To develop a Rotoiti Cultural Management Plan;

d. To receive and discuss monitoring reports that the consent holder is required to produce under the conditions of this consent;

e. To provide recommendations to the consent holder and the Regional Council on the environmental and Maori cultural effects of the activities authorised by this consent;

f. To discuss any other relevant matters that may be agreed by the Ohau ki Rotoiti Kaitiaki Group; and

g. To enable monitoring, by Tangata Whenua, of the environmental and cultural effects of the activities authorised by this consent as identified in the Rotoiti Cultural Management Plan.

9.3 Notwithstanding any other condition in this consent, the consent holder shall, at least once per calendar year, convene a meeting with representatives of the Bay of Plenty Regional Council and Tangata Whenua parties identified in Condition 9.1 to discuss any matter relating to the exercise and monitoring of this consent.

9.4 The consent holder shall provide a written invitation to the members of the Ohau ki Rotoiti Kaitiaki Group at least 10 working days before the proposed meeting is to be held.

9.5 The meeting required by Condition 9.3 need not occur if the Ohau ki Rotoiti Kaitiaki Group, or all of the Tangata Whenua parties listed in Condition 9.1, advise the Bay of Plenty Regional Council that the meeting is not required.

9.6 The consent holder shall keep minutes of the meetings held in accordance with Condition 9.3 and shall forward them to all attendees and to the Regional Council.

9.7 The meetings required by condition 9.3 shall be held at a convenient location as agreed by the Ohau ki Rotoiti Kaitiaki Group. The meetings shall as far as practicable take place on the same day and at the same venue as the meetings held by the Okere ki Kaituna Kaitiaki Group under condition 10 of this consent and the Liaison Group under condition 11 of this consent. The costs of the meeting (not including costs relating to attendees) shall be borne by the consent holder.

9.8 The meetings shall discuss any recommendations in the Rotoiti Cultural Management Plan and matters relevant to the purpose of the Ohau ki Rotoiti Kaitiaki Group.

Rotoiti Cultural Management Plan

9.9. Subject to the formation of the Ohau ki Rotoiti Kaitiaki Group, the consent holder will facilitate the development of a Rotoiti Cultural Management Plan to enable it to be produced by the Ohau ki Rotoiti Kaitiaki Group within three years of the commencement of this consent. The Rotoiti Cultural Management Plan may include, but shall not be limited to, the following objectives:

a. Identifying historical cultural practices which occurred along the Ohau Channel and Lake Rotoiti based on historic data and oral history, prior to the introduction of the Okere Control Gates and Ohau Weir.

b. Identifying the environmental and cultural impacts on tangata whenua resulting from the operation of the Okere Control Gates and Ohau Weir, including for example any impacts on the health and well being of the Ohau Channel and Lake Rotoiti, impacts on kai resources or access to

waahi tapu resulting from the operation of the Okere Control Gates and Ohau Weir;

c. Identifying improvements, including by way of lake management options or environmental restoration programmes, to address the environmental and cultural impacts and/or enable cultural practices to continue, where they have been affected by the operation of the Okere Control Gates and Ohau Weir;

d. Identifying areas for members of the Tangata Whenua groups listed in Condition 9.1 to undertake or be involved in any environmental monitoring or research to be undertaken in accordance with any conditions of this resource consent;

e. Provide recommendations to the consent holder in relation to the above matters and in relation to:

(i) Access to waahi tapu;
(ii) Lakeshore beach restoration;
(iii) Additional monitoring of beach erosion or native fishery resources;
(iv) The results of any surveys undertaken by Tangata Whenua on kai resources in Lake Rotoiti; and
(v) Any maps, data or other information regarding cultural or archaeological sites that the Ohau ki Rotoiti Kaitiaki Group considers appropriate to provide to the consent holder.

9.10 The consent holder shall if requested provide technical assistance where appropriate and all relevant information held by the consent holder to the Ohau ki Rotoiti Kaitiaki Group as necessary to enable the Ohau ki Rotoiti Kaitiaki Group to develop and produce the Rotoiti Cultural Management Plan.

9.11 Once developed, a copy of the Rotoiti Cultural Management Plan shall be provided to the consent holder, the Chief Executive of the Bay of Plenty Regional Council or delegate and the Rotorua Te Arawa Lakes Operational Liaison Group.

9.12 Once developed, the Ohau ki Rotoiti Kaitiaki Group and the consent holder shall meet to discuss and consider the recommendations in the Rotoiti Cultural Management Plan. In the event that any of the recommendations in the Rotoiti Cultural Management Plan can be implemented without the need for a review of this resource consent, the consent holder shall give genuine consideration to implementing those recommendations to the extent practicable.

9.13 The consent holder shall facilitate a review by the Ohau ki Rotoiti Kaitiaki Group of the Rotoiti Cultural Management Plan every fifth year after the completion of the initial Rotoiti Cultural Management Plan, if considered

appropriate by the Ohau ki Rotoiti Kaitiaki Group. Conditions 9.9 to 9.12 shall apply to a review of the Rotoiti Cultural Management Plan.

9.14 The Ohau ki Rotoiti Kaitiaki Group referred to in this consent constitutes the same Kaitiaki Group referred to in Bay of Plenty Regional Council Resource Consent No. RC65980 and all meetings and actions arising out of conditions of this consent with respect the Ohau ki Rotoiti Kaitiaki Group and those in Bay of Plenty Regional Council Consent No. RC65980 are to be carried out together and as part of the same process.

10. OKERE KI KAITUNA KAITIAKI GROUP

10.1 Within three months of the commencement of this consent, the consent holder shall facilitate the establishment of the Okere ki Kaituna Kaitiaki Group by invitation to each of the following (or their successors):

a. Tapuika;

b. Te Arawa Lakes Trust; and

c. Other relevant Tangata Whenua having an interest in the Kaituna River for the purposes of s.6(e) of the Resource Management Act 1991 and listed in Schedule 1 to this consent.

10.2 The purpose of the Okere ki Kaituna Kaitiaki Group is to:

a. Facilitate discussion and free flow of information between the consent holder and the kaitiaki of the Kaituna River on the environmental and cultural effects of the activities authorised by this consent;

b. Facilitate discussion and free flow of information with the Ohau ki Rotoiti Kaitiaki Group;

c. To develop a Kaituna Cultural Management Plan;

d. To receive and discuss monitoring reports that the consent holder is required to produce under the conditions of this consent;

e. To provide recommendations to the consent holder and the Regional Council on the environmental and Maori cultural effects on the Kaituna River of the activities authorised by this consent;

f. To discuss any other relevant matters that may be agreed by the Okere ki Kaituna Kaitiaki Group; and

g. To enable monitoring, by Tangata Whenua, of the environmental and cultural effects of the activities authorised by this consent as identified in the Kaituna Cultural Management Plan.

10.3 Notwithstanding any other condition in this consent, the consent holder shall, at least once per calendar year, convene a meeting with representatives of the Bay of Plenty Regional Council and Tangata Whenua parties identified in

Condition 10.1 to discuss any matter relating to the exercise and monitoring of this consent.

10.4 The consent holder shall provide a written invitation to the members of the Okere ki Kaituna Kaitiaki Group at least 10 working days before the proposed meeting is to be held.

10.5 The meeting required by Condition 10.3 need not occur if the Okere ki Kaituna Kaitiaki Group, or all of the Tangata Whenua parties listed in Condition 10.1, advise the Bay of Plenty Regional Council that the meeting is not required.

10.6 The consent holder shall keep minutes of the meetings held in accordance with Condition 10.3 and shall forward them to all attendees and to the Regional Council.

10.7 The meetings required by condition 10.3 shall be held at a convenient location as agreed by the Okere ki Kaituna Kaitiaki Group. The meetings shall as far as practicable take place on the same day and at the same venue as the meetings held by the Ohau ki Rotoiti Kaitiaki Group under condition 9 of this consent and the Liaison Group under condition 11 of this consent. The costs of the meeting (not including costs relating to attendees) shall be borne by the consent holder.

10.8 The meetings shall discuss any recommendations in the Kaituna Cultural Management Plan and matters relevant to the purpose of the Okere ki Kaituna Kaitiaki Group.

Kaituna Cultural Management Plan

10.9 Subject to the formation of the Okere ki Kaituna Kaitiaki Group, the consent holder will facilitate the development of a Kaituna Cultural Management Plan to enable it to be produced by the Okere ki Kaituna Kaitiaki Group within three years of the commencement of this consent. The Kaituna Cultural Management Plan may include, but shall not be limited to, the following objectives:

a. Identifying historical cultural practices which occurred along the Kaituna River based on historic data and oral history, prior to the introduction of the Okere Control Gates.

b. Identifying the environmental and cultural impacts on tangata whenua resulting from the operation of the Okere Control Gates, including for example any impacts on the health and well being of the Kaituna River, impacts on kai resources or access to waahi tapu resulting from the operation of the Okere Control Gates;

c. Identifying improvements, including by way of gate management options or environmental restoration programmes, to address the environmental and cultural impacts and/or enable cultural practices to continue, where they have been affected by the operation of the Okere Control Gates;

d. Identifying areas for members of the Tangata Whenua groups listed in Condition 10.1 to undertake or be involved in any environmental monitoring on the Kaituna River or research to be undertaken in respect of the Kaituna River in accordance with any conditions of this resource consent;

e. Provide recommendations to the consent holder in relation to the above matters and in relation to:

(i) Access to waahi tapu;
(ii) Kaituna River restoration;
(iii) The results of any surveys undertaken by Tangata Whenua on kai resources in Kaituna River; and
(iv) Any maps, data or other information regarding cultural or archaeological sites that the Okere ki Kaituna Kaitiaki Group considers appropriate to provide to the consent holder.

10.10 The consent holder shall if requested provide technical assistance where appropriate and all relevant information held by the consent holder to the Okere ki Kaituna Kaitiaki Group as necessary to enable the Okere ki Kaituna Kaitiaki Group to develop and produce the Kaituna Cultural Management Plan.

10.11 Once developed, a copy of the Kaituna Cultural Management Plan shall be provided to the consent holder, the Chief Executive of the Bay of Plenty Regional Council or delegate and the Rotorua Te Arawa Lakes Operational Liaison Group.

10.12 Once developed, the Okere ki Kaituna Kaitiaki Group and the consent holder shall meet to discuss and consider the recommendations in the Kaituna Cultural Management Plan. In the event that any of the recommendations in the Kaituna Cultural Management Plan can be implemented without the need for a review of this resource consent, the consent holder shall give genuine consideration to implementing those recommendations to the extent practicable.

10.13 The consent holder shall facilitate a review by the Okere ki Kaituna Kaitiaki Group of the Kaituna Cultural Management Plan every fifth year after the completion of the initial Kaituna Cultural Management Plan, if considered appropriate by the Okere ki Kaituna Kaitiaki Group. Conditions 10.9 to 10.12 shall apply to a review of the Kaituna Cultural Management Plan.

11. ROTORUA TE ARAWA LAKES OPERATIONAL LIAISON GROUP

11.1 Within three months of the commencement of this consent the consent holder shall facilitate the establishment of a Rotorua Te Arawa Lakes Operational Liaison Group ("RTALOLG") for the purpose of:

a. Facilitating discussion and free flow of information between the consent holder and the community on the operations and environmental effects of the activities authorised by this consent;

b. Providing feedback on the effects of the implementation of the Operational Management Plan; and

c. Providing a forum to seek community input into resolving any difficulties in achieving the target lake level ranges set out in this consent and the Operational Management Plan referred to in Condition 7.1 of this consent.

11.2 Within six months of the commencement of this consent, and following the establishment of the RTALOLG, the consent holder shall submit to the Chief Executive of the Bay of Plenty Regional Council, or delegate, a Rotorua Te Arawa Lakes Operational Liaison Group terms of reference (TOR). The TOR shall be developed in consultation with the RTALOLG.

11.3 The RTALOLG TOR shall detail the procedures for the establishment and ongoing involvement of the RTALOLG and shall, as a minimum, address the following matters:

a. The location and frequency of meetings of the RTALOLG (to take place in Rotorua at least annually in the first three years of the commencement of the consent and thereafter at least every third year);

b. The parties to be invited to participate in the RTALOLG, including but not limited to at least one representative of the following (or their successors, if appropriate):
   - Te Arawa Lakes Trust;
   - Ngati Pikiao;
   - Tapuika;
   - Other relevant Tangata Whenua;
   - Kaituna Catchment Control Scheme;
   - Rotorua District Council;
   - Lake Rotoiti Community Association Incorporated;
   - Rotorua Lakes Community Board;
   - Department of Conservation;
   - Tamatea Street Ratepayers Association;
   - Fish and Game;
   - The commercial rafting/kayaking community; and

c. Meeting procedures, including arrangements for election of a chair and definition of procedures;

d. The nature of information to be provided to the RTALOLG including copies and summaries of the reports and complaints register required in accordance with conditions of this resource consent; and

e. Procedures for reporting the outcomes of RTALOLG to the consent holder and the Chief Executive of the Bay of Plenty Regional Council or delegate.

11.4 Any changes to the RTALOLG terms of reference that occur as a result of consultation with the RTALOLG shall be provided in writing by the consent holder to the Chief Executive of the Bay of Plenty Regional Council or delegate.

11.5 The Rotorua Te Arawa Lakes Operational Liaison Group referred to in this consent may constitute the same group referred to in Bay of Plenty Regional Council Resource Consent No. RC65980 and all meetings and actions arising out of conditions of this consent with respect the Rotorua Te Arawa Lakes Operational Liaison Group and those in Bay of Plenty Regional Council Consent No. RC65980 may be carried out together and as part of the same process.

12. MITIGATION WORKS

12.1 Within 6 months of the commencement of this consent, the consent holder shall, subject to obtaining the written approval of the Rotorua District Council, install a flapgate on the outlet of stormwater culvert that discharges to the Ohau Channel, subject to the design of the flapgate being approved by the Chief Executive of the Bay of Plenty Regional Council, or delegate. The flapgate is to be designed to prevent water from the Ohau Channel entering the stormwater culvert. Once installed the flapgate shall be maintained by the consent holder in good working order.

12.4 No later than 28 February 2022, the consent holder shall prepare a Weed Management Plan (WMP) for controlling encroaching exotic weeds and grasses on the landward side of beaches of Hinehopu and Ruato Bay with the objective of widening the beaches. The WMP must:

a. Specify methods that will be used to control vegetation over a maximum beach width of 2.0m on an ongoing basis;

b. Include the removal of any dead vegetation resulting from the vegegation control measures; and

c. Be developed in consultation with the Ohau ki Rotoiti Kaitiaki Group and landowners.

12.5 The WMP must be submitted to the Chief Executive of the Bay of Plenty Regional Council, or delegate, for certification that it meets the requirements of condition 12.4.

12.6 The consent holder must thereafter implement the programme of control measures set out in the WMP.

12.7 The consent holder may update the WMP at any time. However, prior to implementing the updated WMP it must first be provided to the Chief Executive of the Bay of Plenty Regional Council, or delegate, for certification that it continues to meet the requirements of condition 12.4.

14. HINEHOPU INVESTIGATION

14.1 Within 3 months of the commencement of this consent, groundwater monitoring shall be undertaken in Tamatea Street, Hinehopu. Groundwater monitoring shall:

a. Be carried out for a minimum period of 12 months. Following this period of groundwater monitoring, the monitoring results shall be analysed by the consent holder and submitted to the Chief Executive of the Bay of Plenty Regional Council, or delegate. If it is determined by the Chief Executive of the Bay of Plenty Regional Council, or delegate, that the results do not represent typical years in terms of regional climate and the range of recorded lake levels, then monitoring shall continue for a further year.

b. Groundwater monitoring shall be carried out using 15-minute interval automatic groundwater recorders at 48 Tamatea Street, Hinehopu as specified in Section 5.7 of the '*Preliminary Groundwater Study of Tamatea Street, Hinehopu, Lake Rotoiti'* prepared by Robbin Britton and dated November 2010.

c. The consent holder shall monitor the groundwater levels to an accuracy of +/- 20mm. Levels shall be relative to Moturiki datum and the Rotorua Fundamental Benchmark.

14.2 The consent holder shall prepare a report on the results of the groundwater monitoring by a suitably qualified and independent expert in the field of groundwater analysis. The report shall, at a minimum, include the following information:

a. A map showing the locations of groundwater monitoring;

b. A record of the groundwater levels and relative lake levels;

c. An analysis of the correlation between the lake levels and groundwater.

14.3 If the report concludes that there is a correlation between the levels of the lake and the groundwater levels at Hinehopu, then within six months of the completion of the report the consent holder shall develop a recommended programme of works designed to mitigate any adverse effects of the elevated lake levels on the use and enjoyment of the dwellings in Tamatea Street, Hinehopu. The recommended programme of mitigation works shall be developed in consultation with the RTALOG, the Ohau ki Rotoiti Kaitiaki Group and affected landowners. The recommended programme of mitigation works shall be submitted to the Chief Executive of the Bay of Plenty Regional Council, or delegate.

14.4 The consent holder shall thereafter implement the recommended programme of mitigation works, subject only to the need to gain any necessary further resource consents for the works and any timing constraints occasioned by Local Government Act funding obligations.

15. ANNUAL REPORTING

15.1 By 1 June each year for the term of this consent the consent holder shall provide a report to the Chief Executive of the Bay of Plenty Regional Council or delegate, the Rotorua Te Arawa Lakes Operational Liaison Group and the Ohau ki Rotoiti Kaitiaki Group setting out:

a. the actual distribution of lake levels compared to the target distribution;

b. the actual flows rates of the Okere Gates compared to the minimum flow rates;

c. any difficulties experienced by the consent holder in achieving the target lake level ranges and minimum Okere Gate flow rates;

d. a summary of any consultation undertaken with stakeholders in accordance with Conditions 9, 10, 11 and 14 of this consent;

e. a summary of any investigations undertaken as a result of complaints about the adverse effects of lake levels;

f. methods for how any difficulties in achieving target lake level ranges and Okere Gate minimum flows have and will be resolved and how any complaints about the adverse effects of lake levels have been responded to; and

g. methods proposed to resolve any issues that may have arisen including operational difficulties, water quality, and extreme weather events, and any changes required to the Operation Management Plan

16. ACCESS

16.1 The consent holder shall maintain foot access across the Okere Gates control structure.

17. REVIEW

17.1 The Bay of Plenty Regional Council may, annually in the month of September, serve notice of its intention to review any conditions of this consent under s.128 of the Resource Management Act 1991 for purposes of dealing with any adverse effect on the environment which may arise from the exercise of the consent and which is appropriate to deal with at a later stage.

17.2 The purposes of this review may include, but are not be limited to:

a. To modify the lake level regime or minimum flows specified in condition 7.4 of this consent;

b. To modify any required monitoring/reporting and/or specify additional monitoring/reporting and/or change the monitoring/reporting frequency required to address any identified adverse effects;

c. To assess, and if necessary to resolve, any identified adverse effects arising as a result of the exercise of this consent.

Cultural Management Plan review

17.3 The Bay of Plenty Regional Council may, within 3 months of receiving the Rotoiti Cultural Management Plan in accordance with Conditions 9.11 or 9.13 or the Kaituna Cultural Management Plan in accordance with Conditions 10.11 or 10.13 or receiving a written request from the Ohau ki Rotoiti Kaitiaki Group or the Okere ki Kaituna Kaitiaki Group, serve notice of its intention to review any conditions of this consent under s.128 of the Resource Management Act 1991 for the purposes of dealing with any adverse environmental or cultural effects on the environment identified in the Rotoiti Cultural Management Plan or Kaituna Cultural Management Plan.

17.4 In deciding whether to exercise its discretion under condition 17.3 the Bay of Plenty Regional Council shall have particular regard to the recommendations contained in the Rotoiti Cultural Management Plan and / or the Kaituna Cultural Management Plan as the case may be.

17.5 The purposes of any review under condition 17.3, which may be the same or separate reviews at the consent authority's discretion, may include, but are not limited to:

a. Implementing any of the recommendations contained in the Rotoiti Cultural Management Plan and / or the Kaituna Cultural Management Plan;

b. The matters listed in Condition 17.2 (a)-(c).

17.6 For the avoidance of doubt, any review pursuant to Condition 17.3 may impose further or additional review conditions for the purpose of ensuring the adequacy of the conditions in avoiding, remedying or mitigating the cultural and spiritual effects of the activities authorised by this consent and to amend the conditions or add further conditions if necessary.

18. TERM OF CONSENT

18.1 This consent shall expire 35 years from the date this consent was granted.

Advice Notes

1. *The Chief Executive of the Regional Council or delegate as referred to in this consent is the person responsible for monitoring and enforcing compliance with the conditions of this consent.*
2. *Any notification or reporting required to be made to the Chief Executive of the Regional Council or delegate under this consent shall be e-mailed to notify@envbop.govt.nz.*
3. *This consent does not authorise the holder to modify or disturb any archaeological or historic sites within the area affected by this consent.*

Should any artifacts, bones or any other sites of archaeological or cultural significance be discovered within the area affected by this operation, written authorisation should be obtained from the Historic Places Trust before any damage, modification or destruction is undertaken.

4. *The consent holder is advised that non-compliance with consent conditions may result in enforcement action against the consent holder and/or their contractors.*

5. *The consent holder is responsible for ensuring that all contractors carrying out works under this consent are made aware of the relevant consent conditions, plans and associated documents.*

7. *The works described in Condition 12.2 shall be undertaken as a permitted activity in accordance with Rules 21(e) and (f) of the Bay of Plenty Regional Water and Land Plan.*

8. *Tapuika Iwi Authority, which has the right to representation on the Okere ki Kaituna Kaitiaki Group and Operational Liaison Groups referred to in conditions 10 and 11, is in negotiations with the Crown in relation to its Treaty of Waitangi Claim concerning interests in the Kaituna River. Any outcome of those negotiations may contain provisions which affect this consent.*