

Minutes of the Rotorua Te Arawa Lakes Operational Liaison Group annual meeting held at Bay of Plenty Regional Council, 1125 Arawa Street, Rotorua on Tuesday 26 November commencing at 1:00 pm

Chair: Warren Webber (Lake Rotoiti Community Association)

Present: Jim Stanton (Lake Rotoiti Community Association), Mary Stanton (Ngāti Pīkiao and Ōkawa Bay Resident), Matt McKnight (Canoe Slalom Regional and National), Hilary Prior (Lake Rotoiti Community Association), Sam Sutton (Rotorua Rafting), Justin Hutton (River Rats Rafting), Deliah Balle (Te Arawa Lakes Trust), Andy Woolhouse (contractor for Bay of Plenty Regional Council), Phill Thomass (Tamatea Street Ratepayers Association), Joe Tahana (Ngāti Pīkiao), Keith Waaka (Ngāti Pīkiao), Eric Cawte (Rotorua Lake Council), Andy Bruere (Bay of Plenty Regional Council), Mark Townsend (Bay of Plenty Regional Council), Graeme O'Rourke (Bay of Plenty Regional Council), Keely Schreiber (Bay of Plenty Regional Council)

Apologies: Michael Gill (former Ōkawa Bay Resident), Fred Whata Jr (Ngāti Pīkiao)

1 Karakia

Joe Tahana opened the meeting with a karakia.

2 Introductions and welcome

Warren Webber welcomed everyone to the meeting and those present briefly introduced themselves and their respective roles.

3 Apologies

Warren asked for apologies and they were recorded.

4 Minutes from previous meeting and matters arising

There were only two actions listed from previous meeting. Graeme investigated options to install audible alarm but it is not feasible due to significant costs involved, the interim protocol is to raise the gates in the evening which rafters agree is reasonable. Live monitoring is on the BOPRC website of Okere Gate flow at Taheke, (not channel flow). Phill Thomass asked if just opening the gates at night impacts the 6 hour average flow around reflux, and Graeme advised that it does not.

ACTION: Andy Bruere is to follow up on why Ian Kusabs did not contact Mary in relation to the Ohau diversion wall and inanga passage. Andy commits to doing this in the near future.

Jim Stanton asked if the minutes are distributed after the annual meeting, Mark explained that the protocol is to upload the minutes to the website & the link is emailed out from there. Warren suggested that a new protocol should be to send the same link out again prior to the following years meeting. It is noted that the link to the previous meeting minutes is to also be included with the link to the report in the meeting invitation email.

ACTION: The link to the meeting minutes to be re-sent prior to the annual meeting.

Resolved that:

The minutes of the previous meeting held 28 September 2018 be accepted.

Webber/Stanton/Thomass
CARRIED

5 Election of a Chairperson and Deputy Chair

Warren Webber as chair asked for nominations for a new Chairperson given he is moving to Marlborough. Warren Webber nominated Jim Stanton. Seconded by Hilary Prior. It was moved that Jim Stanton take over the chairmanship for the next year.

Webber/Prior
CARRIED

Warren noted that Hohepa Maxwell was nominated as deputy chair last year but is not present at the meeting however called for nominations a year for Deputy Chair given there is not normally more than one meeting.

Jim Stanton nominated Joe Tahana and as there were no further nominations it was moved that Joe become Deputy Chair for the next year.

Stanton/Webber
CARRIED

6 Consent Holder Annual Report on Okere Gates (RC 65979) and Ohau Weir (RC65980) – August 2019

Graeme O'Rourke delivered a presentation on the Consent Holder Annual Report on Okere Gates and Ohau Weir for 2018-2019 which covers the period 1 April 2018 to 31 March 2019 (refer Appendix 1 for presentation slides).

Graeme clarified the role of the consent holder being Mark Townsend and that Graeme is the operator of the gates, a responsibility he has had now for 25 years. Graeme recalled the manual operation of the gates by Bertram Kingi in the early days and noted that technological advances have enabled remote operation using telemetry and cameras.

The presentation speaks to the annual report, and the report can be found on the Bay of Plenty Regional Council website: <http://www.boprc.govt.nz/environment/water/rotorua-lakes/okere-gates-and-ohau-weir/>

Discussion

The two consents are for the placement & operation of the Okere Gates structure, and the Ohau Weir (the outlet of Lake Rotorua). The report covers:

- lake level distributions;
- the flow rates in the Ōhau Channel & Kaituna River;
- operational difficulties if any;

- stakeholder consultation including this AGM & general consultation with the wider community; Fish & Game, Department of Conservation, rafters, anglers, Rotorua Lakes Council and iwi;
- any complaints received and any investigations that BOPRC are considering or are ongoing; and
- any review to the operational management plan.

Graeme noted that the last 6 months has been an exceptional run of operations for lake levels & river flows. Both Lake Rotorua & Lake Rotoiti feed into the headwaters of the Kaituna River, Lake Rotorua has an area of 80km² and an average depth of 10m whereas Lake Rotoiti has an area of 33km² with the average depth of 33m (maximum depth of 94m). Lake level conditions determine flows down the Kaituna River, 40 cumecs flow through the gates during flood flow, and a normal day's flow rate is 20 cumecs. The Kaituna River is a 20% contribution to a ten year flow event downstream at Te Puke, it is the Mangorewa River that is the main contribution during a downstream flood event.

The operating range on Rotoiti is 400mm, and in this current reporting period we were operating in this range 100% of the time.

Issues with the presentation meant that Graeme continued to speak to the report and the hard copy of the presentation that has been distributed.

Warren noted that he also had minutes for the kaitiaki, Joe confirmed that the meeting was a combined meeting and having Joe, Keith & Mary present makes a quorum for Ngāti Pikiao. It was noted that Hohepa Maxwell had been invited to this combined meeting and has been sent the report.

Warren asked about the stop logs and if they are stacked or in series given that they are 6m x 300mm high, Graeme advised that they are placed in series horizontally, this reduces the area of the notch that the water flows through. Regarding the levels of Lake Rotorua, Phill commented that particularly given the flooding experienced last year, he thinks that there is little understanding in the community on how the stoplogs work, that a lot of people see them as gates so then take the view that the Council had caused flooding because they didn't open the 'gates' and let water out of Lake Rotorua. Phill suggested that it might be timely to put an update on the website to explain what the stoplogs do. Mark agreed that education is always an issue around such engineering matters, and concurred that it could be something to be put on the lakes management page.

ACTION: Andy Bruere to put up some information on the lakes management page on the BOPRC website

Any water coming down the Ōhau Channel must go down the river, an estimated channel flow of 15 cumecs means that 15+ cumecs must go out the Okere gates 100% of the time so that the water coming out of Rotorua continues down the river & not into Rotoiti. Justin queried the chart showing outflows down the Kaituna River at 35 cumecs for a lot of the time when the maximum flow for rafting is 26 cumecs, and rafting was possible 75% of the time. Sam commented on the high rainfall experienced and Jim noted the large variance, that there is high percentage of days where rafting was possible whereas the graphs indicate that this may not be the case. The consensus was that the graph was a bit misleading and confusing to interpret but the statistics are correct.

Mary stated she was worried about Te Takinga marae, and that when there is heavy rainfall they get a lot of flooding in close to the marae. The water comes in close to the whareniui because it is so narrow in the channel. Warren said that the predominant influence on flooding

at Te Takinga is determined by the level of Lake Rotorua due to hydraulic friction, the Ōhau Channel is a narrow pipe so water builds up as the water doesn't get out fast enough.

Justin asked about the increasing sediment in the Ōhau Channel delta, and if it is likely to have any effect on the amount of water that is leaving the channel given there is more dropping out of sediment and the formation of small islands as a result of the construction of the wall. Graeme said there is probably a minor influence but it is negligible, the main flow is going through the navigation channel in the delta. It is a redistribution of sediment as opposed to a silting up of the delta.

Andy said that the wall has blocked a key process; the wave front from the lake, this used to wash and clear the delta. He asked if it could be contributing to higher water levels, and is silting in the delta likely to add to the problem? Mary said that hapū have asked about that before, that they weren't happy about it and that in the past there was water flowing past the delta. Sam recalled there always being an island present but that he thinks it is now shallower overall.

Graeme explained that there is a 1m gradient between Rotorua and Rotoiti, and that the system ultimately equalises; we are not seeing deepening or aggradation; it is in general a stable system, and big flows down the Ohau channel encourage flushing when Rotorua is high. Should it be deemed necessary in future it could be a potential dredging project for Andy's team to look at, noting that there is likely to be potential issues from cultural perspective with regards to dredging.

Deliah Balle asked about the objective of the annual drawdown, and if it is to mobilise the sediment and mitigate the risk of the Ōhau Channel sedimentation as opposed to the delta. Warren explained that the flush was an untested concept introduced at the beginning of the consent, the hope was that by lowering Rotoiti rapidly we would get a flushing of the Ōhau Channel & get rid of sediment. What has actually happened on observation & objective testing is that it hasn't made any difference to the average profile. In terms of historic flow rates, it would be possible to go back & see what the flow rates were at different levels, which would give a picture as to if there has been a change in flow rate over time.

Mark commented further that with exceptional rain events in the past few years, flooding at the marae is more a function of the rainfall event rather than downstream conditions; the gradient with a fall of a metre and the effect of the downstream delta only has a minimal effect as you head up the Ōhau Channel. Over that recent period of flooding the region experienced double the historic average rainfall, some had 400% more rain over that period.

Mark said it has been raised before and that an action for him to take away as a technical task is to report on at the next meeting; has there been a significant change over time with flow rates in the Ohau relative to the level of Lake Rotorua or the Ōhau Channel.

ACTION: Mark Townsend to follow up on historic average flow rate rates at different levels

With regards to consultation, Joe stated that the position of Ngāti Pikiāo has not changed over time. Graeme reiterated that BOPRC is always open to dialogue and that communication is transparent. Complaints received go to the regulatory authority, and there have been none received in the reporting period. Concerns are addressed in the sharing of information and through general dialogue.

In discussing operational difficulties, last year was a good year compared to previous years, there was positive consultation, and some improvements made regarding health & safety around evening flows on the Kaituna, and the emergency provisions in place with regards to the operation of the gates.

Resolved that:

The Consent Holder Annual Report on Okere Gates and Ohau Weir 2017-2018 be received.

Tahana/Thomass
CARRIED

7 Rotoiti Cultural Management Plan update and changes to the lake level trial

Andy Bruere (Lakes Operations Manager) spoke to his presentation and gave background on how the Cultural Management Plan (CMP) has come to be; working with Ngāti Pikiao & the history of the lake since the installation of the gates, the loss of beaches, and the perception that the lake level is now too high.

The lake level trial proposal is a voluntary way of working through issues of the CMP, and it is a request from the consent holder, not the regulator. The aim of the 3 year trial is to get the lake to a lower level at a specific time of year, and to enable this a change in consent conditions is required. There is a conception that the lake is being held high, impacting on the formation of beaches, and there have been flooding issues. Modelling is important but not easily understood by all so the trial will mean that people can see it for themselves, test a new regime and any perceived issues and see if it is something the wider community wants, or does not want. It is important for people to see what a level means and actually is; we are lucky we can conduct a trial because of the gates.

Ngāti Pikiao are keen to see the lake level tested down to that of the lowest level on record, some 170ml below that of the consent drawdown level, giving a full range of about 350ml. The trial would hold the lowest lake level for no longer than a week, it is a trial to see what the lake does & does not do. Graeme clarified that rainfall is the only way to recharge Rotoiti so if there is no rain then the lake would not recharge. Because of this the trial attempt is intended to be made after Waitangi Day and & before 30 June. Once the lowest level is achieved then baseline information on beaches & jetties can be collected. Dredging for jetty access is not necessary in trial period.

Eric reiterated that RLC should continue to be involved with discussion, and that the widest group possible should be involved so everyone can understand the planned trial & share their views. The trial requires a change to the resource consent, and the intention is to apply for a non-notified consent change with community support.

Joe spoke to his presentation on the Okere Gates. Ngāti Pikiao's findings are that the Okere Gates are having a significant impact on Rotoiti, raising lake levels are destroying the lake beaches, the whenua is falling into the moana. There are problems with lake weed, water quality, and erosion. Rakeiao marae has experienced flooding, and it used to be that every bay had a beach. Beaches are caused by wave action not water level, and the recommendation is to restore beaches, and remove exotic vegetation.

Mark confirmed with Joe that the change in range is with respect to the lower reaches not higher, so it is essentially the same conditions as are used for the flush at present with the consent, but just going to a lower level.

Joe mentioned the consent condition around monitoring of the dabchick/weweia; they attach their nests to the raupo so if water fluctuates they drop to ground level where the rats and stoats can get at them; this issue is avoided by the trial being undertaken in autumn.

Phill asked Joe about the consent condition with regards to herbicide spraying & if environmental society would be amenable to using steam as a mechanical means rather using herbicide, to which there were no objections.

Joe stated that for the trial to be successful, the community needs to be part of the monitoring so the impacts can be understood, especially those jetty users.

Andy noted that there were other changes the consent holder wanted to make but have held off until the trial process underway, being:

- 1) bringing the meeting date forward as Graeme touched on earlier
- 2) holding the condition but using steam rather than herbicide

The chair said he supported these changes and asked for formal agreement from the group, to which there were no objections.

There was a proposal to build a small stopbank/bund in the Ōhau Channel however this was based on an incorrect interpretation of survey information at the time so it is now irrelevant.

Andy reiterated just so people are aware, that if we dispense with aspirational level range targets then we are generally trying to hold that lake at a level 270.100 to continue to let Rotorua flow out through the Okere gates, Graeme said we will maintain normal gate operations, that this doesn't compromise rafting as we will likely get better flows during dry periods in which the gates will remain open, so essentially gate operation status quo.

Warren spoke to his presentation, referencing a 113 year dataset including the 75 year period of the natural lake reference between 1906-1981 which was up to when the Okere Gates were installed. The highest recorded lake level was 279.768m in 1962, and when the annual range gets below 278.90m only 2.6% of all levels have ever been there, prior to the installation of the gates.

The new consent period started in 2013/14, over the first 3 years there was a percentage of time sitting below a level of 279.100 level, regarded as the point at which you start to have navigation problems in the more shallower areas of the lake. This would be validated or not by monitoring in the proposed trial.

Over the last 2 years the lake level has varied quite a lot, due to the really wet year experienced in 2017. If it isn't possible to reach the aspirational targets of the consent then Warren asks why have them. What is being proposed for the trial is a maximum target of 279.200 which would virtually ensure no lakeside flooding, but if there is a big storm event the level would be higher. The lowest level permitted in the current consent is 279.00m during the flush.

The proposal is to lower the lake to 278.85m in the trial; the lowest ever level recorded in 1915 was some 20ml lower. The working group has agreed it should allow a reasonable assessment of what the lake looks & feels like at that very low level; that is how the proposal compares to what has happened historically.

The Okere Gates structure is nearly a metre lower than the original rock ledge so if you open the gates the lake will empty. Minimum Kaituna flows are mandatory and the Kaituna output must exceed or equal what enters & flows down the Ohau Channel. It is not proposed to change that at all, and Warren's view is that the most important element for all is to optimise water quality for Rotoiti. This should underpin everything, a really dry summer will mean new historic low if we are to be guided by the principle of the Kaituna output must exceed or equal what enters & flows down the Ohau Channel.

Warren asked that if the level can be held for a week then is there a need to repeat it? It is important to also recognise that boaties prefer the lake level to be above 279.100m. Warren personally supports proposal of three year trial, he adds that it has a simplicity that is missing from current consent, and it satisfies what Ngāti Pīkiao want to see. Graeme stated that his experience of the annual drawdown, if the lake is lowered gently this may compromise the

ability to reach the level; Warren stated that he is happy for Graeme to provide guidance on lowering the lake as he has the most experience.

Andy clarified that the proposal states that the intention is to lower the lake level just the once with no need to do it again, and Joe agreed that yes once during trial period maybe more than one attempt, the ability to see-feel-touch is key. Inflow-outflow lake management guides the current consent so Warren believes the community would support the three year trial.

Jim mentioned the apprehensions of the wider community, and the need to communicate the understandings of RTALOG so as to get community buy-in, consulting in a way that provides optimum explanation of the trial & what it is trying to achieve. Given the intention of pursuing a non-notified consent it is important to involve the community in advance, so as to not create a situation where it will cause a huge disruption.

Andy stated that there is a process to go through regarding resource consent and consultation, and that applying for a non-notified consent doesn't exclude consultation and that the intention is to go about things in a supportive-consultative manner. The CE of BOPRC has no appetite for what happened when the consent was initially obtained with regards to the money & time spent so BOPRC (as consent holder) is working to accommodate the wishes of Ngāti Pikiao.

Andy Woolhouse spoke to consultation being the longest part of the process, it is important to get all parties on board so we can go through non-notified process. Jim explained that the likely objectors are expected to be from boat owners & jetty users, and agreed that all parties need to be fully across matters, noting that there will always be outliers who are not supportive.

Warren said that the homework has been done already so the proposal can be brought together in short time frame; that it isn't about completing consultation by this time, but working to a key date in calendar for lake side residents of the LRCA AGM which is on 2 January. Residents will be wanting to hear about the proposal & have their views considered, if the meeting could be targeted as a key consultation point it would be very helpful to getting the community on board.

Hilary agreed and said she thinks it would be good to put information out ahead of that time, there are always outliers but that she is confident that the proposal would have buy-in.

Phill stated that he is very supportive of the trial, he would want to see that the 279.2m upper limit is not exceeded, and queries if a week at that low level going is to be long enough? Two weeks would be good to see the weather patterns with regards to wave action.

Warren said that due consideration should be given to Phil's suggestion if it is a one-off event in the trial.

Andy stated that in response to what Jim as saying, in working through with Ngāti Pikiao they have been accommodating and reasonable in setting the time of trial to be after Waitangi Day and not in the height of summer.

Jim agreed and stated that the explanation needs to be framed accordingly, all parties are trying to be consensual and not one side over the other.

Justin commented that the lake levels are highly regulated and that widening of the range makes sense, he is in support of the trial and appreciates the time and money spent on the consent. In terms of the flush, raising the gates keeps rafters off the river, but that the rafters gain this back in winter when the lake levels are lower. He asked how the proposal is going to achieve anything with regards to re-establishing the beaches. Warren said that the fate of the beaches is a differing of opinion, it is his view that the beaches referred to in the cultural management plan are still there but they are under vegetation. Mechanical & steam restoration of beaches to get rid of some of the vegetation is proposed to assist with this.

Warren proposed a motion to support in principle on the proposed three year trial. Eric from RLC said that he was attending as three waters infrastructure manager and so from a drainage point of view he supports it, but he is conscious that there are other parts of RLC that look after the lake jetties et al so he asked if he should vote or abstain, given that as he cannot represent their view. Phill responded that in principle, so long as lake levels are not going up that was understood to be okay with RLC, given the recent discussions he has had. Warren advised that this is not the only part of the process to give input.

Deliah said that Te Arawa Lakes Trust as lakebed owner provide approval, that they have always supported the return of the beaches, the return of natural tide, and the return of natural taonga and that Te Arawa Lakes Trust want to be part of any dredging discussion that may occur.

Justin asked if there would be more frequent smaller gate changes in keeping with an inflow-outflow regime under the trial. Warren said that it is not a matter of change in the underpinning management of the gates, but rather that lake level management will be more assertive, and that once a level of 279.10 is attained that a careful management of lake levels is adopted as the caveat of outflows to equal & exceed inflows must be honoured. In long stretches of dry weather then lake levels could be lower than seen before.

Sam asked if there is a target lake level the trial is trying to aim for, and Warren explained that it is an assertive management of high levels and a careful management of low levels; a literal 'go with the flow' approach, in dry weather the levels will continue to go down, in the wet the level will go up, and if levels are too high the gates will be open more often. Joe stated that hopefully it will give us some kind of natural fluctuation, and Warren said the whole process should respond to weather.

Mark clarified that change of consent is for the trial only, a key point to make for consultation and Joe reiterated that this highlights the importance of monitoring through that trial so we have qualitative information.

Mary stated that three years is not a long period of time, so let's give it a try and get on with it. Graeme stated that the consequence of removing vegetation is increasing the risk of erosion, there are trade-offs with this.

Warren put forward the motion that this group supports in principle the proposal by Andy Bruere & Joe Tahana on behalf of Ngāti Pīkiao for a three year trial. All were in favour and the motion passed unanimously.

8 General business

Phill passed on his congratulations to the rafting companies on the reshaping & improvements of the put in area at Ōkere Falls. Justin thanked Warren for his work, time & effort as Chair and member of RTALOG and wished him well on his move away from the region.

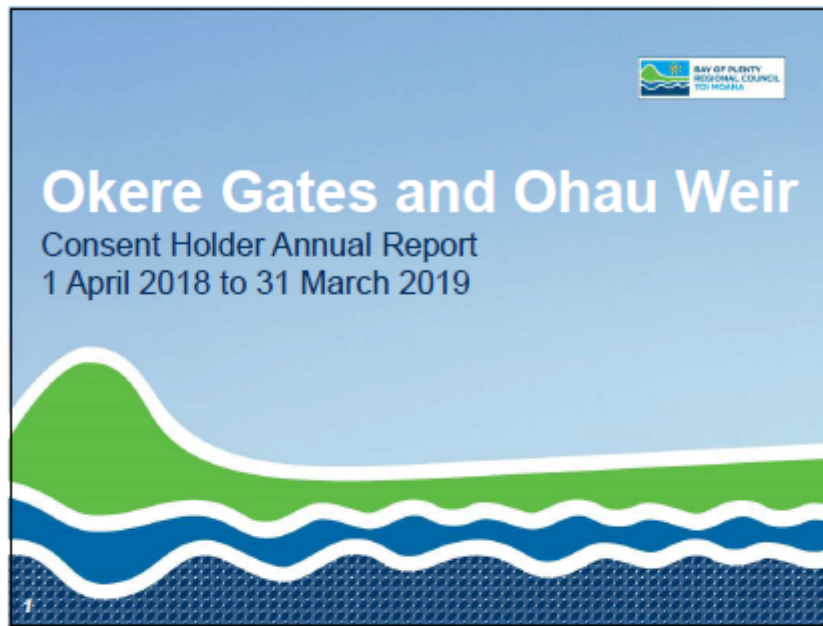
9 Closure/Poroporoaki

Warren Webber called to draw the meeting to a close.

Joe Tahana closed the meeting with a karakia.

Meeting closed at 3:37pm

Appendix 1 – Presentation on the Consent Holder Annual Report on Okere Gates and Ohau Weir (Graeme O'Rourke)



Introduction (PS-10 of report)

Consent/s requirement to report annually to the Consent Authority, Liaison and Kaitiaki Groups.

- Consent 65979 – Okere Gates (Condition 15.1)
- Consent 65980 – Ohau Weir (Condition 12.1)

- Lake level distributions
- Flow rates – Ōhau Channel and Kaituna River
- Operational difficulties
- Stakeholder consultation – General and CMP's
- Complaints

2 BAY OF PLENTY REGIONAL COUNCIL TŌI HOAANA

The Lay of the Land (P.8 of report)

Purpose of consents:

1. Ohau Weir
 1. Lake level
2. Okere Gates (Rotoiti)
 1. Water quality – Maintain outflow
 2. Lake level control
 3. Flood Management – Kaituna River

Some numbers:

- 113km² of lake above Okere Gates
- ~1.0m differential between lakes
- Okere Gates max flow = 40cumecs
 - normal flow = 20 cumecs
 - 10 year flood flow at Te Matai = 200 cumecs

3 BAY OF PLENTY REGIONAL COUNCIL TŌI ROANGA

Lake Rotoiti – Operating envelope (P.11 of report)

Figure: Schematic of Lake Rotoiti operating envelope

4 BAY OF PLENTY REGIONAL COUNCIL TŌI ROANGA

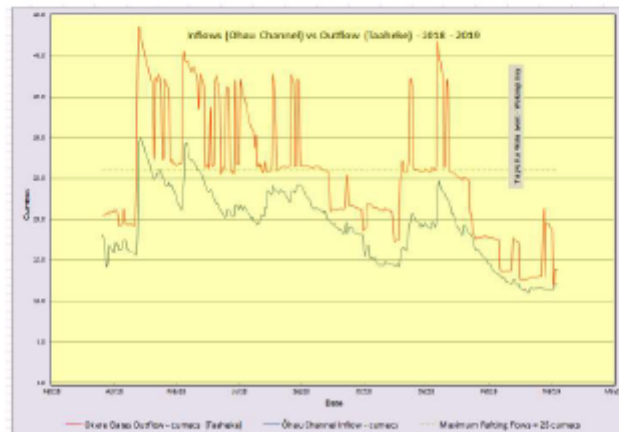
Flow rate conditions (7.4.f-k) (P.18-23 of report)

- **Okere Gates Outflow > Ōhau Channel Inflow (7.4.i)**
- Minimum 'consented' river flow 7.9 cumecs (7.4.f.1)
 - ~ 11.3 cumecs – 11 March 2019
- Seven day 'consented' minimum flow of 9.84 cumecs (7.4.f.2)
 - ~ 12.7cumecs – 8 March 2019
- Okere Gates ramping rates - See P.17 of report for results
 - +10cumecs/hr when opening
 - -5cumecs/hr when closing
 - eg) (40cumecs – 35 – 30 – 28 = 2hrs of transitional closures = 7am - 9am

Then once all other consent conditions met:

- Provide recreational river flows (7.4.l)
 - 2018-2019 = 81.6%
 - 2017-2018 = 49.3%
 - 2016-2017 = 95.6%
 - 2015-2016 = 98.9%
 - 2014-2015 = 97.8%
 - 2013-2014 = 96.4%
 - 2012-2013 = 80.3%

Inflows vs Outflows (P.18 of report)



Consultation (P.26 of report)

Maintain discussion and the free flow of information between
Consent Holder and community – Groups include:

- Rotorua Te Arawa Lakes Operational Liaison Group (28 Sept 2018)
- Ohau ki Rotoiti Kaitiaki Group – (19 Oct 2018)
- Okere ki Kaituna Kaitiaki Group – no meeting
- Other groups listed in Consent 65979 – 11.3 (p.46)
- Note – Cultural Management Plans from both Kaitiaki Groups have been received. Item for discussion later today.

Operations (P.25 of report)

- Structures and control systems
 - No issues
 - Ohau stoplogs
 - Installed 10 April and 17 October 2018 (Note - exit to play movie)
 - Remove stoplogs 28 April 2018
- Environmental challenges
 - Wet summer conditions
 - High rainfall = high inflows = high lake levels = high outflows (Ohau Channel /Okere Gates – Kaituna River)
 - Maintaining > outflows will lower Rotoiti levels during dry months
- System improvements
 - Onsite camera installed at Okere Gates
 - Reflux warning in HydroTel
 - Advise compliance immediately when lake level ranges are exceeded



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Investigations and monitoring (P.28-33)

- Monthly inspection of lake and structures
- Staff gauges – photos – any flood issues – settlement (tectonics / geothermal)
- Ōhau Channel Cross sections (17)
- Ōhau Channel velocities
- Ōhau Channel Delta survey
- Tamatea Street wetland levels



Concerns and Formal Complaints (P.28)

General Concerns:

- Low lake levels over summer months
- Rafting restrictions on the Kaituna River - (when lake levels are high)

Other:

- H&S of Kaituna River users
- Investigated audible warning system – not feasible
- Provisional measure is to only fully open Okere Gates after dark
- Updated BoPRC web page – Live monitoring

Complaints:

- None - any non-compliance issues are addressed by Councils Regulatory Arm
- 5 day notification period of any non-compliance occurring

Acknowledgments:

- No flooding
- Regular coms to rafters and others

Summary

1. Priority remains maintaining water quality of Lake Rotoiti – but may compromise levels during dry months
2. Successful year to maintain 'main operating range'
3. Flow rates (Outflows > inflows) mostly maintained within consent conditions
4. Annual Report posted to Liaison and Kaitiaki Groups with 2 meetings held
5. Operational improvements made to better monitor risk of reflux
6. Advise Councils Regulatory Arm within 5 days if any non-compliant issues occur
7. Environmental monitoring occurs monthly to build record
8. Cultural Management Plans received and under consideration
9. At this time, no recommendations in place until CMPs reviewed

Appendix 2 – Joe Tahana’s presentation slides



Overview

- Significant Cultural Impacts
- Recommendations
- Post CMP lodgment
- Key takeaways
- Questions

Okere Gates / Ohau Weir

- 1982 Okere Gates constructed
- 1989 Ohau Weir constructed
- Purpose
 - Control Lake Rotoiti water level
 - Lower Kaituna Catchment Scheme - Manage downstream flooding
- Benefits for recreational boating and rafting



Okere Gates

“Ngāti Pikiao have been concerned since the consent was put in place about lake levels and would like lake levels to be returned to original levels. The reason for this is that there has been flooding and problems with septic tanks and loss of beaches....”

“Māori have not benefited from the consents.”

- (the late) Fred Whata Snr QSM

Cultural Management Plan 2016

- Recognition of tāngata whenua relationships with Lake Rotoiti and the Ohau Channel
- Impacts on tāngata whenua arising from operation of Gates and Weir
- Mechanisms to avoid, remedy, mitigate these impacts
- Evidence to support review of consent conditions
- Focus on lake levels, not a focus on water quality



Process

- Project team organised
- Mana whenua engagement
- Research history, connections, worldview
- Identification key issues/impacts
- Mitigation, monitoring and review options explored
- CMP lodged 2016



History and Connections

- From time of first settlement
- Numerous significant sites, features and uses
- Strong connections (ahi kaa) maintained
 - Marae
 - Kaitiakitanga
 - Fisheries
 - Customary practices
 - Treaty claims



CMP Findings

- Okere Gates have significant cultural impacts
- Impacts only avoided or remedied through restoration of natural lake fluctuation levels



Significant Cultural Impacts

“Since these gates were put in, rising lake levels have destroyed all of the beaches that once were in all the bays of Rotoiti. The level of the lake is so high that erosion is now a problem and our whenua is falling into our moana, altering many of our sites of significance and changing the landscape as we know it.” – Te Ariki Morehu

Significant Cultural Impacts

Loss of:

- Mauri and mana
- Beaches
- Pumice and plants used for customary purposes
- Native fisheries
- Access to kaimoana and wahi tapu sites
- Ability to practice kaitiakitanga
- Experience of natural fluctuations
- Connection

Significant Cultural Impacts

- Flooding – marae and properties
- Septic tank overflows
- Weeds
- Water quality
- Erosion
- Financial costs
 - Retaining walls
 - Extraction pumps
- Lack of safe access

Significant Cultural Impacts

"Yes our buildings were getting overtaken by the water and the water just sat there so we lifted our wharenui... 1996-1997 the wharenui was lifted and re-piled and I also remember the floor had to be done as well. They had to strengthen all the floor joists to take the new floor. ...all our new buildings, like the whare karakia, that was getting flooded regularly and all the other issues that go with it...we replaced carpets three or four times... (if) we couldn't afford it we just sort of opened the place and dried it out..." – Tewi Curtis

Significant Cultural Impacts







Cultural Significance

"...in terms of beaches you know all the family around the lake had their own beach, their own special beach... [a]nd that's the sad part. My daughter, she's 13 and the eldest is 21, they'll never know beaches. That's a tragedy. They've lost out on their heritage...they're entitled to have a look at what a beach looks like in their own way but somebody's taken that away from them" – Joe Tahana

Significant Cultural Impacts

THE HOLIDAY ATTRactions OF THE THERMAL REGIONS: A BREEZY DAY ON THE BEACH AT LAKE ROTORUA, ROTORUA, AUCKLAND.





Recommendations

- Restore beaches
- Remove exotic weeds
- Replant beaches and lake edges
- Rebuild/replenish native fisheries
- Better flood protection
- Better erosion protection
- Protect and ensure access to wahi tapu
- Build footpaths

Post CMP Lodgement

- Consent agreement adopted some CMP recommendations
- Funding
- Pest management program underway

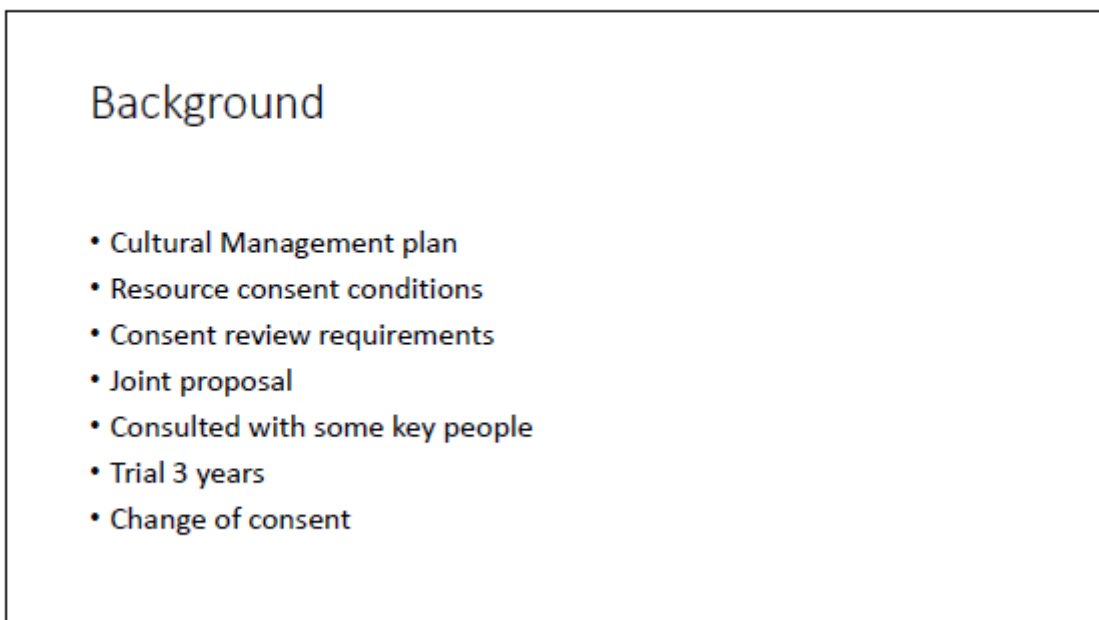
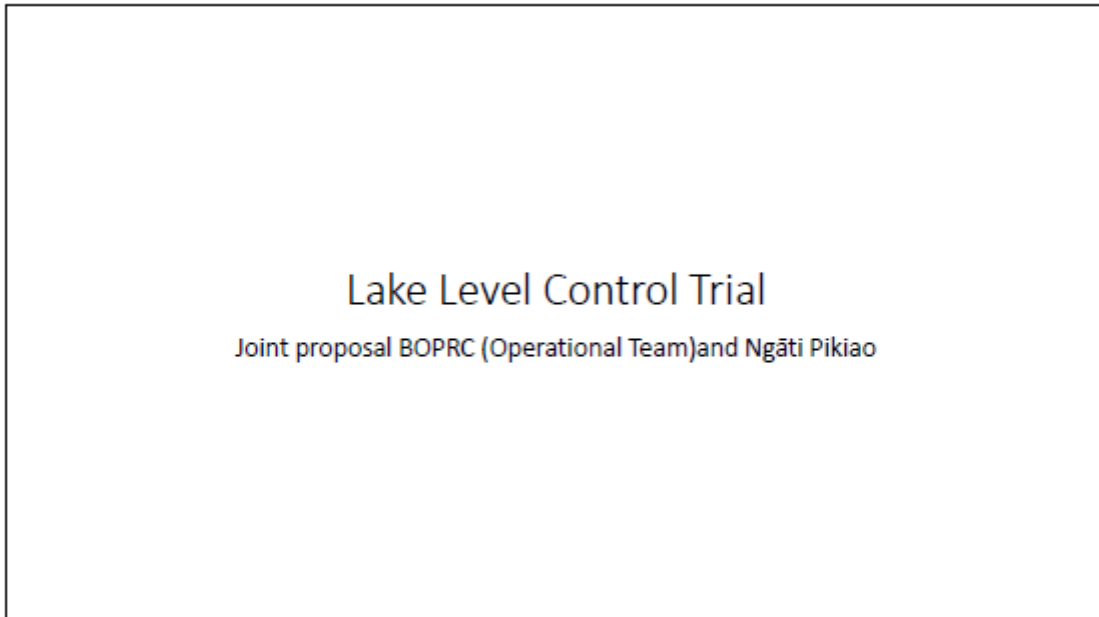
Key Takeaways

- Okere Gates/Ohau Weir significant adverse cultural effects
- Measures necessary to remedy – some already in train
- Next steps
 - Working group
 - Natural fluctuations trial over 3 years
- Review

Questions

Acknowledgements

Appendix 3 – Andy Bruere’s presentation slides

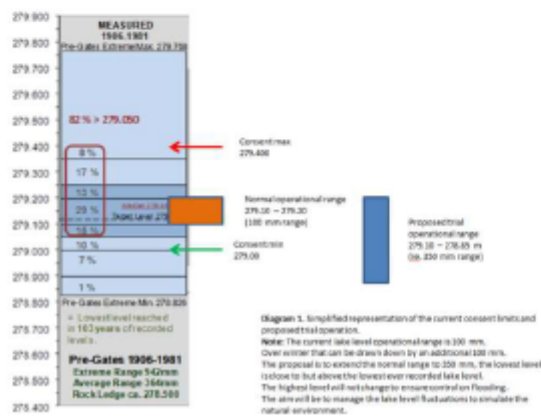


Why do trial?

- Ngāti Pikiao request, various expectations
- See and feel the outcome
- Because we can
- Identify other issues/claims
- Apprehension if permanent

Trial boundaries

- See pg 2



Operational change for 3 years

- See pg 3

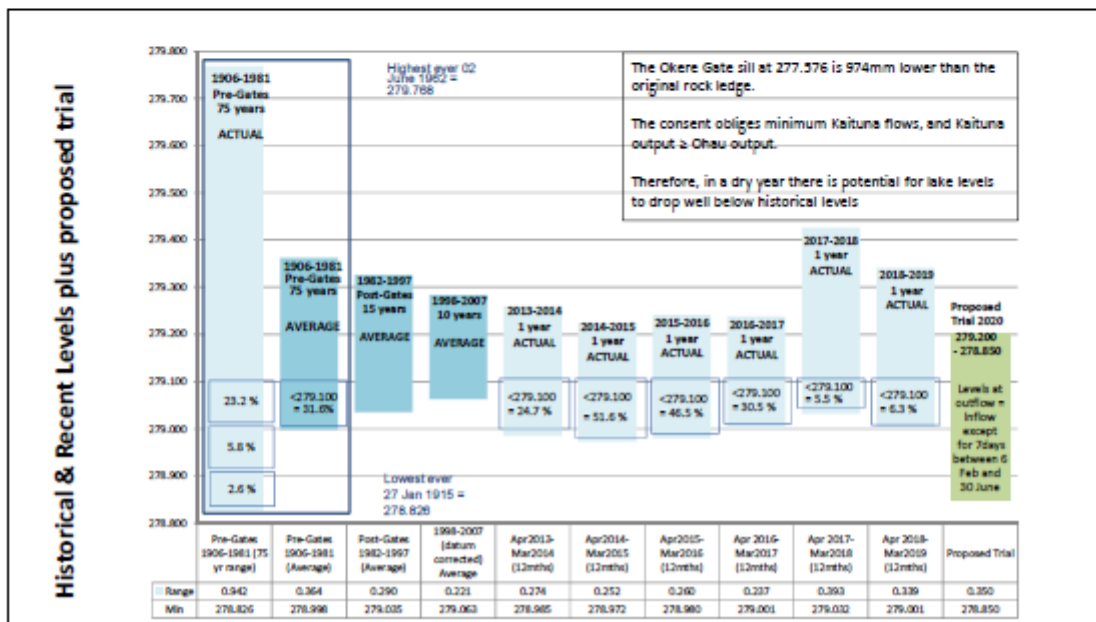
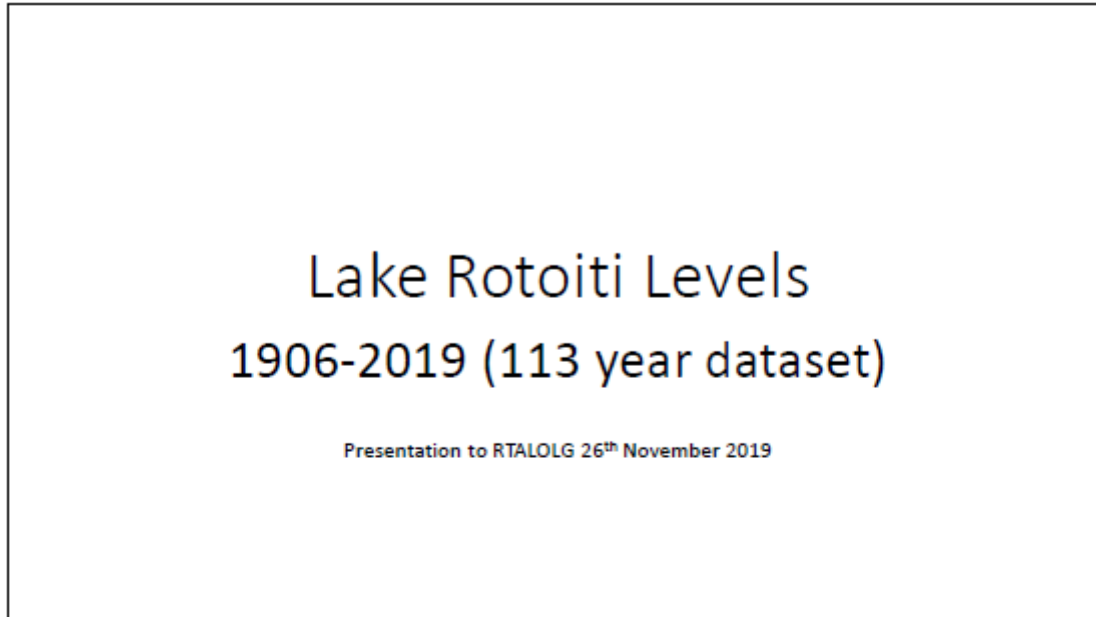
Mitigation and monitoring

- See pg 4

Process for the trial consent and associated approvals

- See pg 5

Appendix 4 – Warren Webber’s presentation slides



Keep it Simple (KISS) – my personal view

1. The most important element for all parties is to optimise water quality for Lake Rotoiti. This is best achieved via the **Outflow/Inflow Caveat** which requires outflows to the Kaituna to be greater than or equal to inflows from the Ohau
 - Outflow/Inflow caveat should determine level management
 - No minimum lake level
 - No aspirational % targets for each range of levels
2. Ngati Pikiao want to understand the look and feel of the lake at 278.850
 - Facilitate this as a once-only event, but otherwise avoid managed drawdowns beyond 2020
3. Recognize that boaties prefer levels at or above 279.100
 - Facilitate this by managing Okere Gate outflows to equal Ohau Inflows when the lake is at or below 279.100

End of “Short Version”

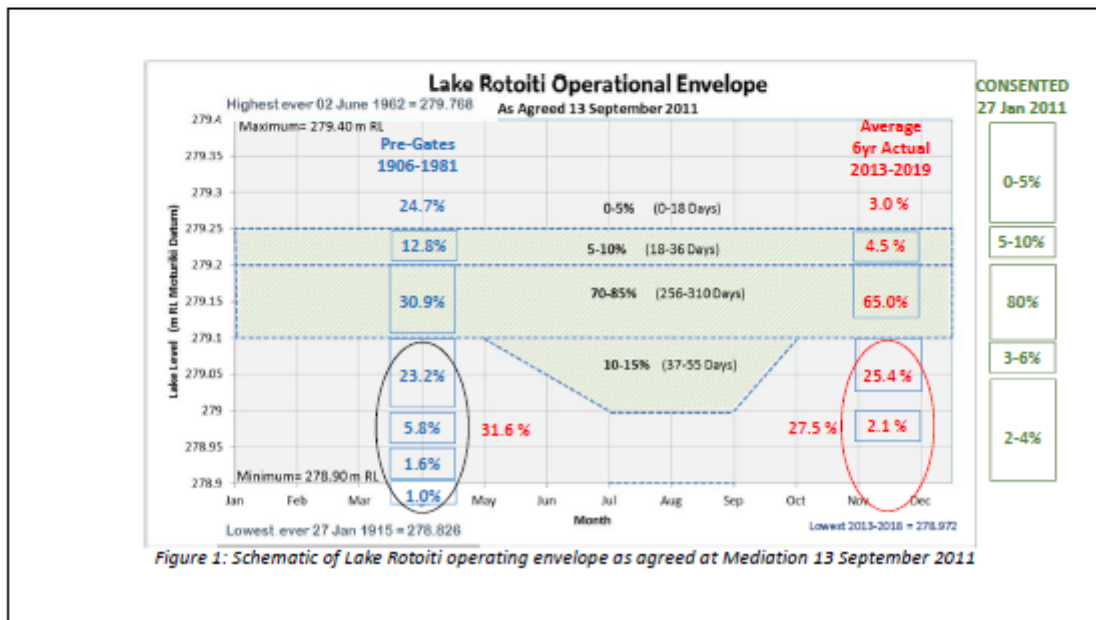
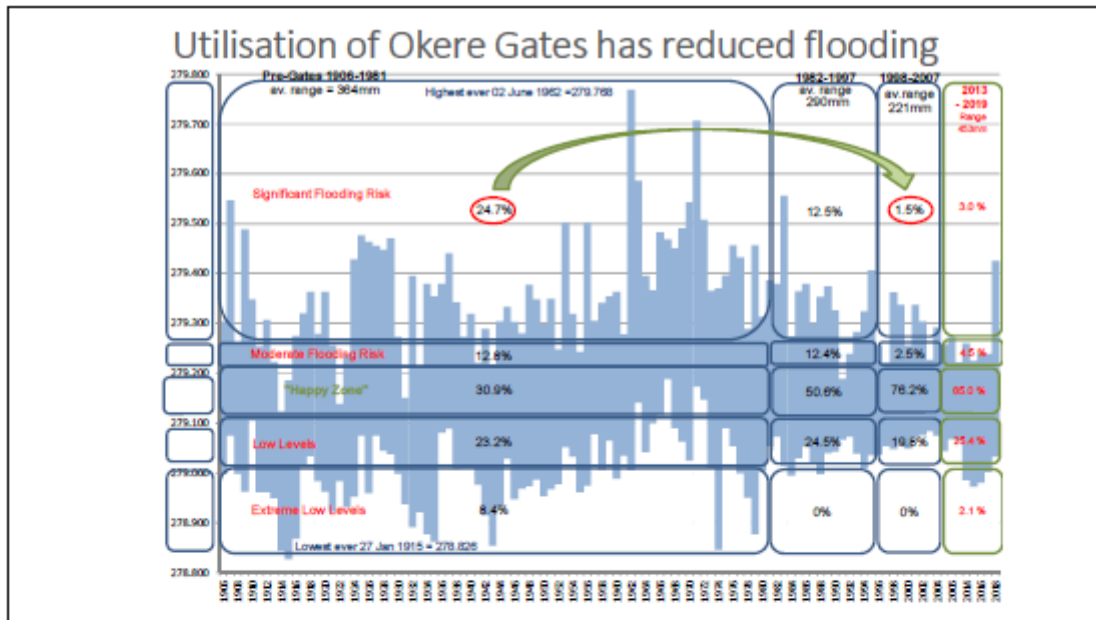
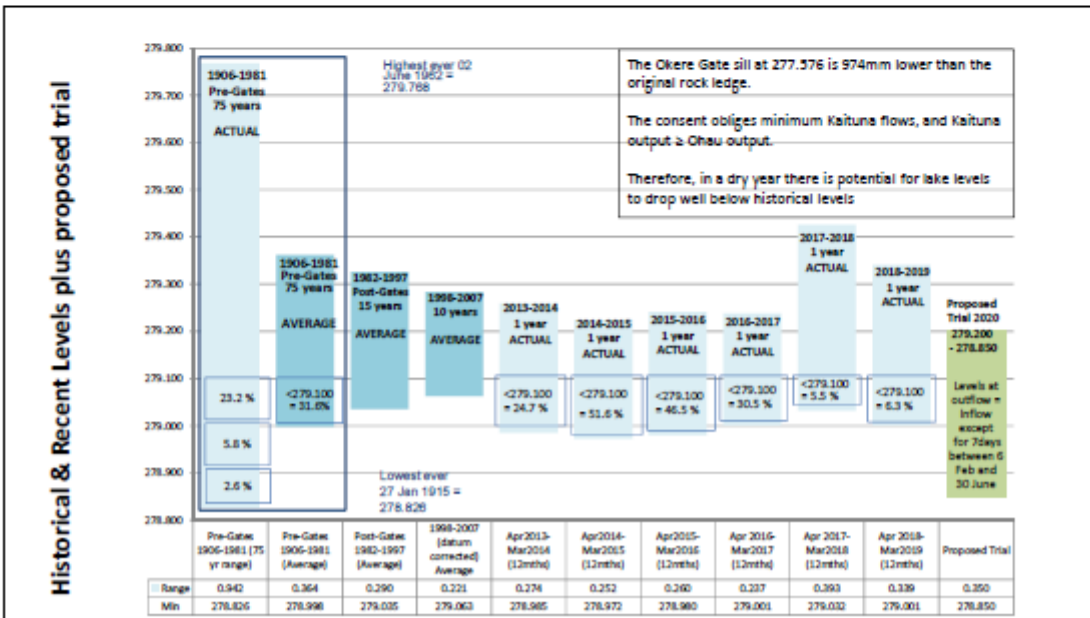


Figure 1: Schematic of Lake Rotoiti operating envelope as agreed at Mediation 13 September 2011

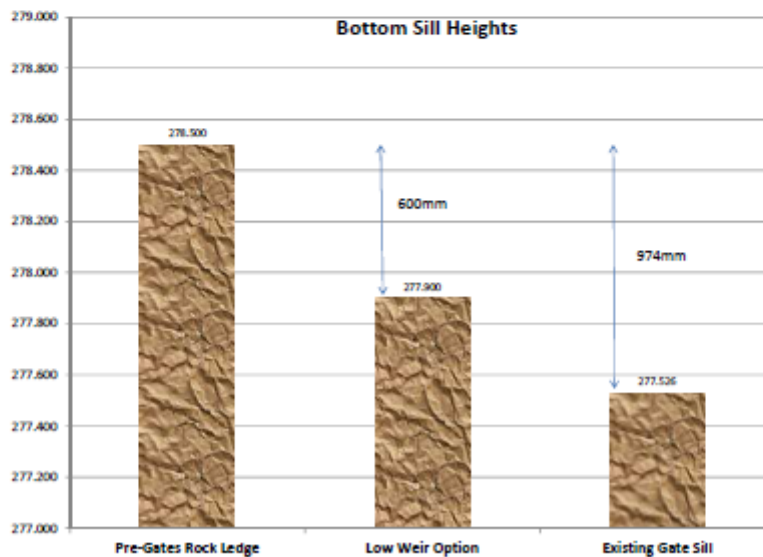
Lake Rotoiti Levels % < 279.100 comparison

	% Levels < 279.100			
	Flush	Non-Flush	Annual	Range
2013-2019 Operational Target	10-15%	0%	10-15%	
Pre-Gates 1906-1981 (av)			31.6% (av)	364mm (av)
Actuals 2013-2019				
2013-2014	13.20%	11.50%	24.70%	274mm
2014-2015	28.80%	22.70%	51.60%	252mm
2015-2016	10.40%	36.10%	48.50%	260mm
2016-2017	17.30%	13.20%	30.50%	237mm
2017-2018	5.50%	0.00%	5.50%	393mm
2018-2019	4.10%	2.20%	6.30%	339mm
Byr Average 2013-2019	15.04%	14.30%	27.50%	293mm



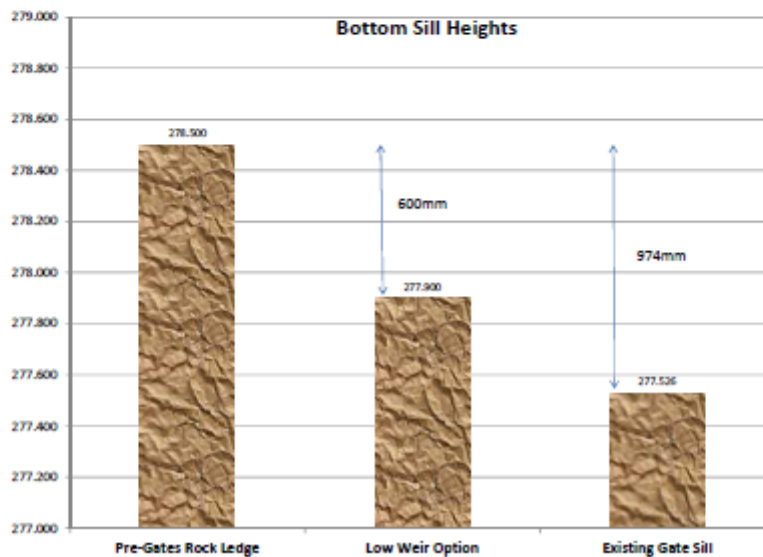
Questions

- Why do we need the Gates to remain?
- Where have the beaches gone?
- What is the purpose of a trial?
- What would a trial look like?
- Is it necessary to have more than one more managed drawdown to a very low level?



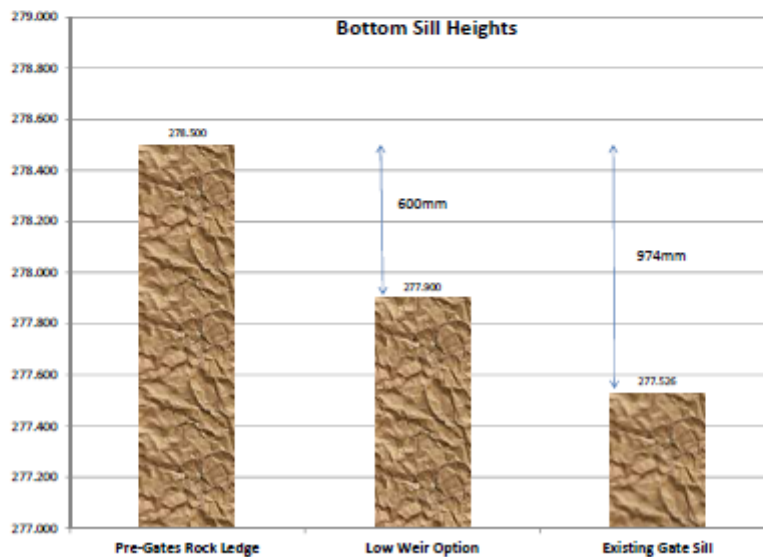
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Questions

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- Where have the beaches gone?
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Comments

- The current consent suppresses high lake levels
 - From 1906-1981 levels > 279.250 were 24.7%. Current operational target is 0-5%
 - Suppression of high levels significantly reduces lakeside flooding risk, but also **significantly reduces capacity to mitigate low lake levels**, because of the over-riding caveat for Okere outflows to be \geq Ohau inflows
- The input/output equation overrides all gate management. Therefore, except for high levels > 279.250, the **target % levels for Lake Rotoiti are aspirational only, and of little practical value.**
- The flush is regarded by many as of little value, but does provide a consented opportunity to experience levels down to 279.000 (or 278.850 under the proposed trial) for a defined time.
NB: The Flush is not obligatory under the consent (ref. p62, para 12.2)
- With low rainfall the current consent does not limit the level to which the lake can drop. The Okere Gate sill is 277.576 (974mm lower than the original rock ledge), **so in a dry year there is potential for lake levels to drop well below historical levels**

Keep it Simple (KISS) – my personal view

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