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1 Introduction

This is the decision of a Hearing Panel comprising Mr Rauru Kirikiri, Mr Tony Cussins and Dr Brent Cowie (chair) appointed by the Hawke’s Bay Regional Council (HBRC, the Council) to hear and decide a resource consent application lodged by eight applicants to take and use what is known as the Tranche 2 groundwater from the Ruataniwha aquifer in Central Hawke’s Bay. All the individual applications were brought together as one application, and heard collectively

We undertook a site visit on Monday 14 November 2020. We were accompanied by Mr Warwick Hesketh of the Council’s staff, who took us to four of the properties for which resource consents were sought, namely Te Awahohonu Forest Trust (TAFT), Papawai, Buchanan No. 2 Trust (Buchanans) and Tuki Tuki Awa Limited (Tukituki Awa). We are very grateful to Di Burkin, Sawana Anderson, Will Buchanan and Mike van der Burgh for taking the time to show us these properties, including the possible sites for “augmentation” of affected water bodies.

The hearing commenced in Ahuriri on 15 November 2022, with the second day (Wednesday 16) held in Waipawa. It reconvened in Ahuriri on the 17th November, and was adjourned a little before 1700h on that day. After discussions with the Applicants’ Counsel, Mr Matheson, we issued a minute on 18 November requiring his final right of reply be in writing and be received by 1200h on Friday 2 December 2022. That was duly received on Thursday 1 December, and we closed the hearing on 14 December 2002. However, our final decision was delayed as one panel member suffered a significant concussion prior to Christmas, and was unable to work again until the second week of February.

2 Summary of our Decision

This brief summary is not part of the formal decision per se, rather it is a very short overview. Our full decision is given in Section 7 below.

We have decided to decline the application. There are two main reasons for this. The first is that provisions in the National Policy Statement for Freshwater Management 2020 include words that direct us to prioritise the “health and wellbeing” of freshwater versus it being used or developed. Additionally, the Policy Statement requires that we “protect” the habitats of indigenous freshwater species.

The second reason is that we are not persuaded that the potential adverse effects of the application can be avoided or mitigated. These include effects on cultural values, effects on flows in rivers and streams and the biota that dwell there, and effects on other users of shallow groundwater, including for, stock water and for domestic supply.

3 The Proposal

3.1 Background

Plan Change 6 (PC6) to the Hawke’s Bay Regional Resource Management Plan (the “RRMP”) was heard by an independent Board of Inquiry (BOI), who issued their decision in June 2015¹. Amongst the matters addressed in the BOI decision was the allocation of groundwater from the Ruataniwha aquifer, which is an inland basin in Central Hawke’s Bay drained by the Waipawa and Tukituki Rivers and their catchments. The aquifer is what is known as a closed system, which means that any groundwater taken from the aquifer and used for irrigation is ultimately lost from the rivers that drain the Ruataniwha basin.

PC6 established what are known as two “tranches” of groundwater in the Ruataniwha aquifer. Tranche 1 groundwater, which is limited to a maximum total take of 28.5 million cubic metres per year (M m³/y), was set to reflect existing groundwater allocation at the time PC6 took effect.² Tranche 2 (“T2”) groundwater is limited to a maximum take of 15 M m³/y taken via wells screened at a depth of at least 50 metres. This Tranche 2 groundwater can only be taken provided stream depletion is offset, at least in part, by what is known as “augmentation”, which must take place when river or stream flows reach particular low flow thresholds³. As we will discuss later in this decision, augmentation is not a simple process to either design or implement successfully.

The s42A reporting officer, Mr Barrett, considered that the current application is a discretionary activity under Rule TT4 in the RRMP. The Applicant agreed, and so do we.

The Ruataniwha Basin comprises a series of spatially distributed and discontinuous alluvial aquifer deposits with variable properties. There are no discrete gravel aquifers present. Groundwater within the basin is geologically contained and hydraulically linked with surface water, meaning that the streams and rivers that flow across the Ruataniwha Plains have complex interactions with the groundwater beneath the basin. These interactions vary in space and time: the surface water bodies lose flow to and gain flow from groundwater in different reaches, and some surface water bodies often have no surface flow during the drier months.

3.2 The Applicants’ Proposal

Since 2014 eight separate applications have been made to take Tranche 2 groundwater from the Ruataniwha aquifer.⁴ Eventually these were all bought together as one application, which was the subject of the hearing. Each of the eight activities sought a specific maximum annual volume of groundwater from the aquifer, and each activity had as part of the activity proposal a discrete site where up to a specified volume of augmentation water would be returned to rivers and streams, via

¹ PC6 became operative on 1 October 2015, and is now incorporated into the RRMP.

² Despite which it is far from fully utilised – see Figure 1 in Mr Thomas’ evidence attached to the s42 Officer’s Report.

³ One of which will change significantly on 1 July 2023, when the low flow at “Red Bridge” in the lower Tukituki catchment increases from 4,300 to 5,200 litres per second.

⁴ These are listed in Table 2 of Mr Barrett’s s42A Officer’s Report; we do not need to repeat that here.

either direct discharges to a surface water body, or via a groundwater bore close to a surface water body.⁵

The initial applications sought to use all the 15 M m³/y of Tranche 2 groundwater provided for in PC6 for both taking and use, and augmentation. However the volumes of water sought for irrigation exceeded the calculated 1 in 10y “Irricalc”⁶ volumes provided for in the RRMP, so the total volume of water sought by the eight potential water users who became the Applicant was reduced to 12.98 M m³/y, of which up to about 8.44 M m³/y was proposed to be used for irrigation, with the balance for augmentation.

The Applicant proposed that the unallocated 2 M m³/y would be set aside for “manawhenua”, “subject of course to manawhenua agreeing to accept such an allocation”.⁷ Indeed in his opening legal submissions Mr Matheson said “to the extent that there remains any jurisdictional concern about such an offer, then the conditions necessary to secure that outcome are offered by the Applicants on an “augier” basis.⁸

In response to these “offers of unallocated water to manawhenua”, we made it very clear that in our view the Applicant had no jurisdiction to make such an offer. The RRMP does not provide any Tranche 2 water to a particular applicant group, and any person can apply for a resource consent. It was at best misleading to suggest that the Applicant group could somehow “reserve water” for a particular category of resource user.

For the same reason we suggested to Mr Willis, the Applicants’ Planner that Section 10 of his evidence should be struck out as our annotations made clear what we thought of the Applicants’ initial assertion that they could “reserve water” for a particular applicant group. Our understanding was that he agreed to do so. Mr Matheson took exception to our comments about this section of Mr Willis’s evidence in his Right of Reply. We stand by our view that there is no legal basis for an Applicant for resource consents to “reserve water” for a third party. In the end it matters not one jot as the Applicant, in their final draft conditions of consent sought to take and use all of the 15 M m³/y originally applied for, so any pretence that about 2 M m³/y could be “reserved” for manawhenua was dropped entirely. We strongly suspect that much of the reason for doing so was also the strident opposition of all manawhenua submitters who spoke directly on this proposed “reservation” of water.

To explain this further on the final day of the hearing the Applicant changed their proposal so that collectively the eight individual resource users sought to take up to the 15 M m³/y again. The total volume of water sought to be taken and used for irrigation was reduced by about 60,000 m³/y, but the volume proposed to be used for augmentation was substantially increased. This was apparently in response to a comment we made that in drought conditions water would have to be used for augmentation ahead of irrigation. This constituted the Applicants’ final proposal, and the final proposed conditions of consent they put forward with their right of reply reflected this position.

⁵ Initially the Papawai augmentation discharge was proposed to be to a dis-used bore some 650m from the Waipawa River; during the hearing this was changed to a new bore to be drilled close to the river at a more upstream location.

⁶ This is an irrigation demand model developed by the consultancy Aqualinc.

⁷ EIC of Gerard Willis at Paragraph 10.1.

⁸ Opening legal submissions of Bal Matheson at Paragraph 1.4.

3.3 Notification and Submissions

At the Applicants' request the applications were publicly notified. Seventy-two submissions were received; one "supported" the application⁹, one was neutral and the other 70 submissions all opposed the application. The submissions are summarised in Appendix 3 of Mr Barrett's s42A Officer's Report; we do not need to repeat that here.

3.4 Initial Officer Reports

The hearing was originally set down to commence in the week starting 29 August 2022. The Applicant, having received the initial s42A Officer's Report, along with four supporting reports from consultants employed by Pattle Delamore Partners (PDP) assisting the Council, sought that the hearing be deferred until November 2022. This was because the Officer's Report recommended that the application be declined, and the PDP reports highlighted information gaps in the Assessment of Environmental Effects prepared on behalf of the Applicant Group.

We agreed to the Applicants' request to defer the hearing.

3.5 Joint Witness Statements (JWS's)

In our first minute dated 22 September 2022 we strongly suggested that conferencing between experts for the Applicant, and those from PDP, take place in October 2022. We suggested topics we considered should be addressed, and how the outcome we sought was a series of JWS's that highlighted points of agreement and disagreement between those experts.

Three expert conferences duly took place as follows:

1. On groundwater modelling, where the participants were Mr Weir and Mr (Nick Dudley) Smith for the Applicant, and Mr Thomas for PDP. The JWS was dated 11 October 2022, and resulted in agreement that Mr Weir's revised groundwater model was "fit for purpose".
2. On freshwater ecology, where the participants were Dr Keesing for the Applicant, and Ms Drummond from PDP. The JWS, which was dated 18 October 2022, resulted in some agreements being reached, but general disagreement about the effects on freshwater ecology of the Applicants' proposal. We discuss this under the heading "Effects on Instream Ecological Values" in Section 5.3 below.
3. On well interference, where the participants were Ms Johansen, Ms Rabbitte and Mr Weir for the Applicant and Ms Lough and Mr Thomas for PDP. This JWS, which was dated 20 October 2022, resulted in the well interference methodology being largely resolved, with the exception of final calculations of drawdown interference. The actual assessment had not been completed at the time of conferencing. We discuss this under the heading Well Interference Effects in Section 5.2 below.

Given that agreement was reached that the groundwater model developed by Mr Weir, an expert witness for the applicant, and Mr Thomas from PDP was fit for purpose, and there was some limited agreement reached in the other two expert conferences, we suggested that Mr Barrett may wish to

⁹ By asserting that if the applications were granted this would provide an opportunity to test the law regarding the liability of Councillors and Council staff if water is over allocated and water quality fails to meet the targets in the RRMP. We doubt this really constitutes support for the application.

update his s42A Officer's Report. The Applicant agreed to this. An updated report was received on 6 November 2022; it still recommended the application be declined.

4 The Hearing

Section 113 of the RMA requires that we provide a summary of the evidence in this decision. In this instance we see little point providing a detailed summary of the expert evidence in particular. Rather we will refer to the expert evidence, and indeed much of the lay evidence, in our assessment of the actual and potential effects of the application.

We summarise the case for the applicant in Section 4.1 below, and the evidence from submitters at 4.2 below

4.1 The Case for the Applicant

4.1.1 Opening Legal Submissions

In his opening submissions Mr Matheson addressed a number of matters.

1. In his Section 5 he discussed what he called the "key issues" for the hearing. His particular focus was on the expert evidence of the witnesses being called by the Applicant.
2. In his Section 6 he discussed "the legal principles relevant to those issues". These included:
 - a. An overview of how the Courts have addressed cultural issues, at least insofar as to how they have interpreted Section 6(e), 7(a) and 8 of the RMA.
 - b. Separation of take and use consents (which was a concept we were quite comfortable with).
 - c. Weighing of expert and lay evidence.
 - d. Assessment of expert and lay evidence. Mr Matheson quoted extensively from a decision of the Environment Court that referred to this matter¹⁰, and said it may be necessary to return to this matter in closing (which he did not do).

4.1.2 Expert Witnesses for the Applicant

The Applicants' expert evidence was filed on Monday 31 November 2022 consistent with the timetable we set down. It comprised evidence from:

Robert Cottrell, from Te Awahohonu Forest Trust¹¹, Gwavas Station, presented evidence as the sole Māori-owned "applicant" in the group. For this fact alone his evidence was important; in view of the rich Ngāti Kahungunu history attached to the Ruataniwha Basin - evidenced by such things as the various place names that have remained unchanged over many years of settlement. TAFT had won the prestigious 2013 Ahuwhenua Māori Farm of the Year Award, which adds to its local prominence. We were told that the trust currently has around 1500 beneficiaries.

His evidence outlined how he attempted to handle the issue of the ca. 2 M m³/y of groundwater purported to have been allocated to manawhenua by the Applicant. However, this had failed to win over manawhenua, and Mr Cottrell bemoaned the fact that, despite their best efforts, he had struggled to get local hapū or whanau representatives to attend the various hui that TAFT convened

¹⁰ Meridian Energy Ltd v Hurunui District Council (2013) NZ EnvC 59.

¹¹ To avoid repeating this we have referred to the Trust as "TAFT" in the balance of this decision.

to discuss the application. It seemed to us that the Applicant’s tactical approach was astray, and that manawhenua were just not interested in the proposal, or, perhaps more to the point, opposed it.

Mrs Helen Ellis, who co-owns Papawai Farm with her husband Richard. Her evidence focussed on the farm, current irrigation and how T2 water would be used on the property, which included providing more reliability, using new irrigation technology and to grow more crops.

Mr Julian Weir, a groundwater modeller for the consultancy Aqualinc, who had developed a comprehensive groundwater model of the Ruataniwha Basin¹². His model was independently reviewed by Patrick Durney (Lincoln Agritech) who did not prepare evidence and was not available at the time of the hearing. Mr Weir’s model was also peer reviewed by Dr Nick Dudley Ward, an Australian consultant who also tabled expert evidence, and who we had no questions for and so he was excused from the hearing. We discuss Mr Weir’s evidence frequently in this decision, but most often in Section 5.2

Ms Susan Rabbitte, who addressed hydrogeology and particularly the effects of the proposal on well interference. We discuss her evidence in Section 5.2 of this decision.

Ms Alexandra Johansen, who addressed some hydrological matters, including effects of the Proposal on stream flows and groundwater levels, groundwater mounding, and well interference, as well as addressing the effects of closing the Ruataniwha water races. We discuss her evidence in Section 5.2 of this decision.

Dr Vaughan Keesing, who discussed the effects of the proposal on aquatic ecology; we discuss his evidence in Section 5.3 of this decision.

Mr Gerard Willis, who gave planning evidence for the Applicant. We discuss his evidence often in this decision.

We asked that Mr Matheson circulate his legal submissions prior to the hearing commencing, and we gave Mr Willis leave to table additional evidence in response to Mr Barrett’s update to his s42A report. Both these were received in accordance with our request and we thank them for that.

4.1.3 Closing Legal Submissions

Mr Matheson’s closing submissions in reply were received in writing on 1 December 2022. They were accompanied by what he called reply statements of evidence from Mr Weir and Dr Keesing, along with a short memorandum from Ms Rabbitte. Leave was formally sought for reply evidence to be provided.

Mr Matheson also suggested that we could make an “interim decision” or require further conferencing. We rejected both suggestions: any “interim decision” can lead to a legal shambles if submitters or the applicant appeals that decision¹³, and we had sufficient information without any further conferencing.

¹² Weir (2022): Ruataniwha Basin. Tranche 2 Groundwater Modelling (Revised 2). Report prepared for Various Collaborative Participants. WL18045. 28 September 2022.

¹³ This is exactly what happened when Commissioners issued an “interim decision” to grant consents (but with no conditions) for the Wairau HEP canal proposal put forward by TrustPower.

4.2 The Submissions Heard

During the hearing we heard from 25 submitters, all of whom opposed the applications. We now outline briefly the main matters each of them covered:

Ms Alex Walker is the Mayor of Central Hawke’s Bay District Council. She appeared on the afternoon of Tuesday 15 November; we are grateful to Mr Matheson for putting aside his client’s case to allow her to speak.

Ms Walker said that “water strikes to our heart”, and it is an emotive and complex issue for the district. In Central Hawke’s Bay we know water is a finite resource, and so we approach it in a different way to other districts in the region. As the Mayor she is thinking about water intergenerationally and on social, economic and environmental grounds. She acknowledged that our role in decision making was both a privilege, and a burden.¹⁴

Ms Walker said that her Council had worked through what water security means in their district, and that we “don’t want to build on the inequities of the past”. The Council opposes the current applications because of uncertainties about:

- a. the effects of the present proposal, including those on rivers, streams and aquifers, and on water security for other water users, including those in small towns;
- b. what the effects of existing (Tranche 1) activities are,
- c. what the effects of upcoming higher low flows will be; and
- d. particularly, what the effects of climate change will be and that “we need to make decisions now that reflect a future climate”.

Ms Walker was not opposed to the productive use of water, as new technology and crops will be “vital to our future”, but the resource needs to be managed equitably. She also acknowledged the contribution of manawhenua, saying that “we have spoken with them but cannot speak for them”.

We heard from the following submitters on **Wednesday 16 November in Waipawa**.

Mr Colin Shaw is a farmer and stock agent with a property in OngaOnga. He said that farmers are becoming more and more concerned about water supplies and stock water, and that this is putting stress on them. He asked that “if a bore goes dry, who is responsible?”

Mr Duncan Holden appeared with Mr Shaw. He is a third-generation farmer on a property to the south of OngaOnga. It has an irrigation bore consented to take up to 350,000 m³/y, which is a key part of his business, particularly to produce high value seed crops. He showed a graph portraying long term declines (of up to 31 metres) in the static water level in his bore, and asked “what would this look like if another 15 million cubic metres is taken out of the aquifer”? He wanted to take a 100 year forward view on his farming business, “because if we don’t we won’t survive”.

Mr John Barry Smith submitted as a proud descendant of Ngāti Kahungunu. He had pre-circulated his expert evidence, but spoke more broadly. Much of what he said reflected a whakapapa steeped in wai (water) and the responsibilities that Ngāti Kahungunu have as the kaitiaki of the waters of the

¹⁴ Which is a sentiment that we share entirely.

Ruataniwha Plains. His view was that not being able to fulfil these responsibilities was of deep concern to all Ngāti Kahungunu.

He said that as a youngster he swam in most of the waterways in the rohe, but that is no longer possible, and that his mokopuna will never experience the exhilaration that he did as a child growing up alongside these waterways. The rivers and streams were also sources of rongoa (medicinal plants) and were used for baptisms, but all this is also a thing of the past. Mr Smith said that the mauri of the wai throughout the Ruataniwha rohe was so degraded that he feared for the worst if the application was granted, and that further water abstraction was not needed – period.

Mr Smith said that an example of degradation is the koura have disappeared and so “a food for our people has gone”. Similarly, he talked about freshwater flounder being abundant in the Tukituki River when he was young; “now there is not enough flow, it is depressing”. Tuna were plentiful, but are not now.

He was approached by the applicant group to support more water being taken from Tranche 2. “My heart sank”. “It would go against our values, our tikanga”. We all carry core values. “T2 will further affect the mauri and well-being of our awa and our groundwater”. He shared a waiata he wrote in 2005 on behalf of his kapa haka group.

In response to the question “what has happened already?”, Mr Smith said we have lost our values to economic drivers and that there needs to be a change.

In response to the question “what will happen with T2”? he said we need to provide for the future, for our tamariki and my mokopuna. The indicators are already there. The future will be darkness if these consents are granted. The system can correct itself if less water is taken

Mr Johnny Nepe Apatu submitted much along the same lines as Mr Smith, differing only in that he did so completely in te reo Māori. Like Mr Smith he sang a waiata to emphasise his opposition to the application.

Mr Apatu highlighted the oft quoted Māori adage “ki uta ki tai” - from the mountains to the sea, to describe how Māori tradition treats the land and water holistically. They are one and the same and have to be cared for accordingly. He argued that people and processes fall far short of doing so these days. There is too much focus on economic development - as Smith also pointed out - and the waters of the Ruataniwha Plains had become so degraded, that we were at risk of causing irreparable damage to the total ecosystem.

He mourned the disappearance of kai in the waterways, just as Mr Smith had, highlighting the effects that this had on tikanga (traditional practices) like manaaki manuhiri (hosting visitors) and the transmission of intergenerational knowledge. Without taonga species like tuna how were tangata whenua supposed to properly look after manuhiri and thereby preserve traditional practices that should be passed on to succeeding generations.

He was also very disparaging of bureaucratic and political processes that accompany the very resource consent process in which he was being forced to participate in as part of this hearing. He questioned how such processes could supersede traditional Māori practices, particularly as Māori tikanga was present in the rohe long before present day political processes were established.

Mahinga kai was also a key focus of the submissions from the **Ratu-Pekepo whānau**. They spoke of how the waterways have traditionally provided kai, transport and physical and cultural connections for the people. Tuna in particular have been an important staple, which they likened to pork at Christmas for some cultures. They said rivers like the Otāne once teemed with tuna and watercress while on their banks, blackberries, pūha and duck eggs could be gathered in abundance. They showed a video of 81 tuna being rescued from a pool in the Kahahakuri Stream and returned to the Waipawa River

But without sufficient water they struggle to survive - as is the case at present. This application, if approved, will only add to this shortage. The rivers and streams that flow from the mountains to the sea will remain - as in the Māori adage “toitū te whenua, toitū te wai, whatungarongaro tangata” (the land and water will go on forever but mankind will come and go).

Papatūānuku has been compromised through the myriad of changes to the landscape, and the climate. Many voices have spoken but no one has listened. The kaitiaki responsibilities of whānau regardless of whether you come from the Cook Islands or Aotearoa - have yet again been overlooked and compromised. For these reasons they strongly opposed the application.

Ms Diane Smith had held out hope that reform of the RMA would address at least some of the inequities that Māori - and to an extent the wider community - had to deal with in better managing water in the Ruataniwha catchment. She regarded water as presently being treated more as a commodity than a taonga, which she had always believed was what her tipuna had ingrained in successive generations of local hapū.

She reiterated the point made by other manawhenua submitters about the effects that the loss of mahinga kai and the degradation of mauri had on wider tikanga concerns arising out of the application. Key traditional practices like manaakitanga (hosting) for manuhiri (visitors for tangihanga) suffered with the diminution of kai supply that was already widespread, in particular taonga species like tuna in this case.

Her worries spanned the broad landscape from Ruahine to Tukituki to Waipawa. The decline of mahinga kai had irreparably damaged a key aspect of local tikanga - an important point all other manawhenua submitters also emphasised strongly.

Ms Smith listed the statutory acknowledgment areas within the takiwā (area) that need to be taken into consideration as part of broader manawhenua concerns about this application. Treaty claims settlements throughout Hawke’s Bay - and elsewhere – have meticulously identified such statutory acknowledgement areas as crucial to the sustainable management of hapū and whānau interests into the future. She said to not properly account for them in the context of this application would be short-sighted.

She submitted passionately on the need to protect the mauri of all awa in the rohe and thereby protect/rejuvenate the mahinga kai. Without these species “our cultural practices die”. In order to do so we need to ensure that the taiao (environment) is healthy and intact. But this is not the case now. The mauri of the wai in all the awa of the rohe was degraded enough now to not even consider further extraction as an option. She made the analogy between Goliath (applicants with endless amounts of money) and David (manawhenua - struggling to retain and protect their cultural practices) which this application is essentially about.

Ms Jenny Nelson-Smith spoke forcefully about the kahikatea as a prime illustration of the web of life in the Ruataniwha rohe that would be further degraded if this application was approved. She likened Kahikatea to a whanau that had to be carefully nurtured and cared for.

She said that kahikatea in Inglis Bush in this case suffer from dieback largely because they are not able to get the supply of groundwater they require to thrive. (She demonstrated this very clearly in her Power Point presentation.) This proposal would only add to an already dire situation if passed.

This was one of the last prominent kahikatea forests in Hawke’s Bay and for that reason alone had to be saved at all costs.

She described augmentation as a “dirty word” because there was too much water being extracted already. Tranche 2 takes would simply add to the problem. She argued that there was severe overallocation, so why persist? We are past the tipping point now, so it is time to stop draining Papatuānuku.

Mr Shade Smith spoke to his pre-circulated expert evidence. He was not sure exactly where the T2 allocation came out of the Board of Inquiry hearing on Plan Change 6.¹⁵ He asserted that groundwater levels will continue to fall, and that the consents are not “reversible” as claimed by the Applicant. He also spoke about the effects of land use on water quality, which he said was already degraded and would become worse if the T2 applications were granted.

In his evidence he referred to what he called the braid plain aquifer, and in doing so referred particularly to the Ngaruroro River, which in part feeds the Heretaunga Plains aquifer but is not in the Ruataniwha Basin. Clearly there are very strong interactions between groundwater and surface water bodies in the Ruataniwha, but why this might be affected for instance by gravel extraction is not of much relevance to our decisions on the T2 applications.

Mr Ngaio Tiuka gave a comprehensive written submission. Among the main matters he raised were:

1. The existing state of groundwater in the Ruataniwha Basin
2. The effects of the proposed Tranche 2 takes, particularly on instream values, including mahinga kai species.
3. Issues with instream augmentation
4. Cultural, spiritual and other effects
5. Effects on drinking water supplies, both in terms of water levels in wells and groundwater quality.

Mr Tiuka was asked two questions. In answer to “how much did you interact with the Applicants”, he said we had a three hour meeting with them, we considered what they had to say but we did not fully discuss all relevant aspects. Asked if he supported an “allocation of water to manawhenua”, he replied that “higher order considerations suggest that the T2 water should not be allocated in any case”.

Mr George Williams owns a 1,200ha beef and deer property known as Te Maire which is about 6 km inland of Tikokino. Average annual rainfall is about 1,200 mm a year, but the property has no irrigation and is drought prone. He was concerned that the proposed TAFT takes from groundwater in the

¹⁵ Nor do we understand exactly how the T2 allocation, nor associated augmentation, came out of this inquiry.

catchments of the Mangamauku, Mangamate and Mangaonuku Streams will affect groundwater levels on their property, such as those for stock water which rely on shallow wells.

Mr Gary Williams, who is George William's father, is a professional engineer who has specialised in water and soil engineering. He has had extensive experience, including as Chief Engineer for the Hawke's Bay Catchment Board, one of the antecedent organisations of what is now the Regional Council. He had pre-circulated his expert evidence.

Mr Williams considered that the groundwater modelling undertaken on behalf of the Applicant was not fine grained enough to determine localised effects around the hill country margins of the Ruataniwha Basin. He said there was very little calibration data above SH50, and so in his view there was insufficient information in that area to determine effects on existing users, groundwater levels throughout the basin and surface flows along waterways. He observed that augmentation will benefit downstream water bodies, such as the Mangaonuku Stream, but the takes for augmentation would also affect upstream groundwater levels.

Mr Hugh Abiss's verbal submission was read by Mr Mike Rittson-Thomas, who owns the property known as Totara Hills Station, which Mr Abiss manages. Totara Hills Station is adjacent to Mr Williams' Te Marie property, and could also be affected by the proposed TAFT takes. Totara Hills Station covers about 900ha, carries 10,000 lambs and 600 cattle together with crops such as barley, wheat and peas. The station has an irrigation take of up to 160,000 m³/y, and has used about 3.2 million cubic metres of water over the last 20y. They are part of a catchment group working towards best practise, such as improving water quality before further development takes place. Dissolve Inorganic Nitrogen already exceeds targets in the Mangaonuku catchment, and the proposed TAFT development will put further stress on the catchment.

Mr Abiss quoted the objective of the NPSFM and asked if we can really believe the development of T2 will achieve the objective.

Mr Rittson-Thomas said his property would be affected by the proposed T2 developments. Groundwater levels have already dropped on the property. He expressed concern about the effects of climate change, said that the proposed development would threaten about 50,000 ha of land upgradient of SH 50, and that "risking many for the benefit of a few is not right". For these reasons he supported the officer's recommendation to decline the applications.

Dr Thomas Frater had pre-circulated expert evidence, but was a little indisposed at the hearing and so did not want to speak further to this. He pointed out that his domestic supply in OngaOnga is about 50m deep, is screened at 39m, and so is one of the deepest in the township. Despite this water levels in his bore had declined consistently in recent years.

Gren Christie and Sharleen Baird said they had come back to Hawke's Bay in 2001, built a house near Waipukurau in 2003, and were particularly surprised that the Tukituki had "gone down to a trickle". They sought a moratorium on further consents to take water in the Ruataniwha basin. In their view, irrigating pasture for dairy farming is a "waste of water" and that if taken, water should be much better used.

They had major concerns about nitrates, which they said were exceeded in 2017, and they thought might be worse now. They asserted that about 140 dogs have died from *Phormidium*¹⁶ poisoning in their local area. They also noted that the NPSFM is mandated, and asked what we are doing about it.

Mr Christie also presented an article written by the late Professor Walter Clark. It referred only to Canterbury and he underlined some sections related to invertebrates that live in groundwater.

We heard from the following submitters in **Ahuriri on Thursday 17 November**.

Mr Tom Kay spoke on behalf of the Royal Forest and Protection Society at the hearing. He first told us a story about Chicago which historically undertook a series of well-intended but ultimately futile engineering interventions for water supply and disposal of sewage.

He said this shows what's wrong with our stewardship of the planet. The idea of taking and taking more water is not acceptable. If we lower the groundwater, what we put back will not solve the problem. He said that climate change will occur but that we can't predict the consequences.

He was concerned that augmentation will not compensate for effects on the ecology of rivers and streams. He also thought that Inglis Bush would deteriorate further, but was prepared to defer to experts on this matter.

Mr Clint Deckard is the chair of the Inglis Bush Community Trust, and owns a property immediately adjacent to the bush reserve.

He spoke to a presentation. Inglis Bush had been set aside from an old farm and covers about 20ha. He showed us photographs of recent kahikatea die off towards the downgradient end of the bush; in his opinion kahikatea are a "sentential species, like the canary in the coalmine". He acknowledged that the closure of the old water races had affected the bush, as had two drought years, but old springs within the reserve had also dried up in recent times. He said that even after the recent wet winter the springs are "only trickles". He believed that the taking of the T1 water had affected the flow in the springs, and that "it's hard to come to the conclusion that the T2 consents will not affect the bush. He said "*it's horrible to contemplate what's going to happen – it's possible that all the kahikatea will die and that the bush will be dominated by other podocarps, such as totara or mātai*", and that "*it might exist but it will be less.*"

Mr Paul Bailey had been the BNZ rural loans manager for the Ruataniwha area, during which time he talked to a lot of farmers. Having got interested in the Ruataniwha Water Storage Scheme he spent a term on the Council from 2016, and so was involved in both Plan Changes 6 and 9.

He said he'd been concerned about what's been happening for a long time. He was pleased that the T2 proposals were not supported by the Council's s42A report, and he wanted to highlight particular points which included:

- a. Surprise that no CIA had been done. When he attended meeting of the Council's Māori Standing Committee issues such as loss of mauri and habitat came through really strongly.
- b. Support for Mr Deckard's comments about Inglis Bush, along with "disappointment with the work done by the applicants' consultant".

¹⁶ Which are a group of cyanobacteria sometimes present in streams that are particularly toxic to dogs.

- c. Many people had concerns about loss of water in their bores, particularly in Onga Onga. Most were shallow, and since the T1 consents were issued many wells have been deepened, and or pumps improved or the like. He thought that was a danger that wells in Onga Onga that have not been deepened would need to be if the T2 consents were granted
- d. Finally, he did not think the mitigation offered is appropriate. Regarding the talk about a new equilibrium, he asked “what was wrong with the old one?”

Mr Marei Atapu gave a presentation on behalf of Te Taiwhenua o Heretaunga, which he said have social enclaves that “ripple out across the Tukituki catchment. He presented information on the historic vegetation of the catchment and associated extensive wetland and forest areas in the Ruataniwha Basin, with the latter dominated by podocarps such as kahikatea, rimu, maitai and totara.¹⁷ He showed photos of manawhenua fishing for mahinga kai such as whitebait and smelt, and that “water needs to come down the river to sustain the fisheries, the birds and the mauri”.

Mr Maurice Black had pre-circulated expert evidence, and at the hearing he spoke briefly to this via some summary comments. Among the matters he raised were:

- a. He agreed with the reporting officer that too much uncertainty remains about the cumulative effects of the T1 and T2 takes.
- b. He regarded the 5,200 l/s minimum flow in the lower Tukituki River that comes into effect on 1 July 2023 will help provide suitable habitat for aquatic species, including mahinga kai.
- c. He did not regard the consent conditions proffered by the Applicant¹⁸ would avoid, remedy or mitigate effects on small streams.

Mr Black was asked two questions. The first was “will the extra 2M m³/y of water now proposed to go to augmentation make any difference”? In response he said it will depend where and when it goes in, and also said he was a “bit sceptical” about augmentation via a bore. The second was what contact had he had with Mr Cotterell; his response was that we got invited to property and we turned it down, and we also turned down an invitation from Shane Walker at TAFT.

Mr Alastair Setter is a farmer from the Ruataniwha Basin. He takes surface water from the Waipawa River and Kahahakuri Stream to irrigate crops, with most taken prior to Christmas. He showed examples of bores, including one of his own, where static water levels had declined significantly in recent years and said that “if you run out of water for your family or stock, it’s pretty grim”, and can be “hugely stressful.

Mr Setter showed photos of trees that had died on his property in recent times, and of the dry bed of the Waipawa River in October and November 2019, and said the river had never gone dry before new year previously. He asserted that “most people” would say that there was already an over allocation issue, and opposed any further allocation of groundwater in the Ruataniwha.

Ms Anna Lorck is presently the MP for Tukituki. She spoke over a video link. She emphasised the provisions in the NPSFM 2020, and said that we know already what we will have in 2023 is very

¹⁷ Much of this information was sourced from “The Hawke’s Bay Forests of Yesterday”, by Grant (1996).

¹⁸Noting that these were significantly changed with additional mitigation offered in the Applicants’ final set of draft conditions provided with the Right of Reply.

different from 2013, and if we had known then what we know now, additional groundwater abstraction would not have been allowed.

5 The Decision Making Criteria

Decisions on resource consent applications for discretionary activities are made under the criteria listed in Section 104(1) of the RMA. Subject to Part 2 of the Act, we must have regard to the following matters:

- (a) any actual and potential effects on the environment of allowing the activity; and
- (ab) any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity; and
- (b) any relevant provisions of
 - i. a national environmental standard;
 - ii. other regulations;
 - iii. a national policy statement;
 - iv. a New Zealand coastal policy statement;
 - v. a regional policy statement or proposed regional policy statement;
 - vi. a plan or proposed plan; and
- (c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

In relation to these matters and the present applications:

- We discuss Part 2 RMA matters in Section 6 below.
- The actual and potential effects of the Applicants' Proposal are discussed in Sections 5.1-5.6
- s104(1)(ab) is not directly relevant.
- There are no national environmental standards that are directly relevant to the proposal.
- The only relevant regulation is that for monitoring and reporting of water takes, which were incorporated into draft conditions of consent.
- The relevant national policy statement is the National Policy Statement for Freshwater Management 2020, which commenced on 3 September 2020, which we discuss in Section 5.7
- We discuss the relevant provisions of the Hawke's Bay Regional Policy Statement (the RPS) in Section 5.8.
- As the RPS is embedded into the relevant regional plan, which is the Hawke's Bay Regional Resource Management Plan (the RRMP), which we also discuss in Section 5.8.

The one Section 104(1)(c) matter that we consider merits substantive consideration are the statutory acknowledgments that apply to the Ruataniwha Basin. We discuss these in Section 5.9.

As the Proposal as a whole is classified as a Discretionary Activity, section 104B of the Act is also relevant. We can either grant or refuse one or more of the consents sought. If granted, we may impose conditions under s108.

Some submitters, such as Diane Smith and Anna Lorck, made reference to proposed amendments to the planning framework presently embraced by the RMA. This is not relevant to our decision, which must reflect current legal statutes and not some hypothetical future provisions.

Actual and Potential Effects

We see these as being:

- Effects on Cultural Values.
- Effects on groundwater levels.
- Effects on other users of shallow and deep groundwater.
- Effects on stream depletion.
- Effects on water quality.
- Effects on instream ecological values.
- Cumulative Effects.
- Positive Effects.

Some submitters raised other potential effects. For instance, both Mr Black and Mr Tiuka spoke of possible effects on the “stygo fauna” which consists of specialised species that live predominantly in the interstitial spaces between cobbles in groundwater aquifers. Effects on these biota had not been assessed by the Applicant, nor do we regard any such assessment as necessary as it would be near impossible, and inordinately expensive, to carry out.

5.1 Effects on Cultural Values

As part of the AEE prepared by the Applicant Dr Charlotte Drury had prepared a report on the “reported cultural values of the Tukituki Catchment”. As acknowledged by the author the report had some significant limitations: the author did not claim expert status in cultural values, the report is not a cultural impact assessment, and the report does not interpret the information provided. It is a useful and very thorough inventory which includes a large amount of background information, but it is not much help to us in assessing the cultural impacts of the Applicants’ proposal.

Our understanding from Mr Matheson was that various individuals with manawhenua affiliations within the Ruataniwha Basin had been approached to prepare a Cultural Impact Assessment, but that no one was prepared to do so.

All manawhenua who appeared at the hearing opposed the application. The reasons they gave included:

- a. the mauri of the wai in all awa has been irreparably degraded, and needs to be made healthy again - and protected - which this proposal would not do;
- b. mahinga kai has also been irrevocably reduced to the extent that many traditional cultural practices can no longer be performed, or are severely compromised - especially insofar as taonga species are concerned;
- c. medicinal remedial practices and other such ceremonial traditions have suffered and will continue to do so if the application is granted;
- d. hapū and whānau kaitiakitanga obligations are increasingly difficult to maintain in the face of pervading modern day economic, political and science-based priorities - and this application was not going to help at all;

- e. the traditional Māori holistic view of the world clashes with the more compartmentalised Western one;
- f. te taiao (the environment) needs protection foremost, and extracting yet more water out of Papatuānuku is not going to achieve that;
- g. the resource consent process is inequitable in that it inevitable pits resource rich applicants against less resourced entities, in this instance, iwi, hapū and whanau; and
- h. Te Mana o te Wai prioritises the health of the water ahead of everything else, and the Applicants' proposal is contrary to this.

5.2 Effects on Groundwater

5.2.1 Introduction

The potential exists for adverse effects on groundwater levels due to the location and magnitude of the proposed Tranche 2 abstractions. The potential for effects on groundwater levels was primarily addressed by Mr Julian Weir, an expert witness for the Applicant.

Other expert witnesses for the Applicant, primarily Alexandra Johansen (hydrogeology), Susan Rabbitte (hydrogeology and well interference) and Dr Vaughn Keesing (aquatic ecology), subsequently used the output from the model to assess effects on existing groundwater users, stream depletion/augmentation effects, and cumulative effects. In fact, Mr Willis stated that "*this modelling underpins much of the assessment of effects undertaken by other experts¹⁹*". For this reason, we provide a comprehensive overview of the model in the following paragraphs, and any limitations in its application to assess effects.

Mr Weir is a groundwater scientist employed by the consultancy Aqualinc Ltd. He provided us with a detailed description of a 3D numerical groundwater model of the Ruataniwha basin, primarily in his Evidence in Chief²⁰, and additionally in his Evidence in Reply²¹. We provide a brief description of the model in the following paragraphs, but only to the extent necessary to confirm the adequacy of the model's construction and calibration, and to identify any limitations for its use to assess the potential effects of the Tranche 2 abstractions. A full description of model can be found in the Ruataniwha Basin Groundwater modelling report (Rev 2)²².

A 3D numerical groundwater model of the Ruataniwha Basin was first developed in 2013 by Mr Weir as part of the Tukituki Catchment Plan Change 6 (PC6) hearing process²³. More recently, the model has been updated by Mr Weir, and used to test the hydraulic response of the groundwater and surface water system in the Basin from the multiple proposed Tranche 2 groundwater take applications.

In summary, the model domain covers an area of approximately 780 km², with a variable total thickness of 10-400m. The Basin is modelled using MODFLOW with integrated surface water package, with approximately 171,000 active cells (200m x 200m square). It comprises varying thickness over 10

¹⁹ EIC of Gerard Willis at his Paragraph 1.4

²⁰ EIC of Julian Weir on Behalf of Tranche 2 Applicants, dated 31 October 2022.

²¹ Reply Evidence (EIR) of Julian Weir on Behalf of Tranche 2 Applicants, dated 1 December 2022.

²² Weir (2022): Ruataniwha Basin. Tranche 2 Groundwater Modelling (Revised 2). Report prepared for Various Collaborative Participants. WL18045. 28 September 2022.

²³ EIC of Susan Rabbitte at Paragraph 4.1.

numerical layers, and is calibrated to 72 monitoring bores, 5 low-flow trigger sites and 22 intermittent gauging sites throughout the basin.

The model was independently reviewed by Patrick Durney (Lincoln Agritech), and although he did not prepare evidence for the Applicant²⁴, we found his report²⁵ to be a useful review of the strengths and limitations of the model. The key findings of Mr Durney's report were summarised by Mr Weir²⁶, where he concluded that the model conforms to the norms of good modelling practice, is fit to assess the direction and magnitude of effects at the sites included in calibration, and can provide a useful indication of the scale and direction of changes within the basin.

However, Mr Durney noted that the model is limited in its ability to assess maximum interference effects in neighbouring bores²⁷. While the Applicant had proposed specific conditions to address this limitation²⁸, we are not satisfied that the model can reliably predict (in all cases) the static groundwater levels (SWLs) in shallow bores used in Ms Rabbitte's well interference assessments. We discuss the implications of this potential constraint later in this decision.

The model was also peer reviewed by Dr Nick Dudley Ward, a consultant based in Australia who also tabled expert evidence, and who we had no questions for, and so he was excused from the hearing. In his evidence, Mr Dudley Ward described the model construction and calibration to be in accordance with industry practice, but he identified two key uncertainties associated with the proposal, namely

- (a) the efficacy of the surface flow augmentation; and
- (b) effects of the proposed groundwater development on other groundwater users.

We will discuss the implications of these uncertainties in Sections 5.2.4 and 5.2.3.3 respectively.

5.2.2 Scenarios considered by the Applicant

The Applicant made a number of changes to the application following issue of the supplementary s42A Officer's Report (and the supporting PDP memorandum dated 4 November 2022). These included changes to the modelling, and further development and modelling of Scenario 5 (for use of 13 Mm³/year). The original proposal, which included 2 Mm³/year for 'potential cultural mitigation' was subsequently withdrawn, and instead the remaining 2 Mm³/year that was proposed to be reserved for manawhenua is now proposed to be used for additional augmentation.

Mr Weir²⁹ had modelled the following final set of scenarios:

- **No Abstraction**
 - No groundwater or surface water use;

²⁴ In response to our questions, we understand that Mr Durney was not available to appear, due to the timing of the hearing.

²⁵ Durney, P (2022). Independent review of Aqualinc's Ruataniwha Groundwater model used in support of tranche 2 takes. Report: 1040-16-R1. Lincoln Agritech Ltd. 30 May 2022.

²⁶ EIC of Julian Weir at Paragraph 1.5.

²⁷ Ibid at Paragraph 1.6.

²⁸ Proposed conditions for Resource Consent - Water Permit (Use of Water).

²⁹ It should be noted that these scenarios represent the final set of scenarios assessed by the Applicant. For clarity, we have passed over scenarios made redundant by changes to the Applicant's proposed consent conditions (e.g. reserving 2 Mm³/year for the use of manawhenua, which is now proposed to be used for additional augmentation).

- Dryland land surface recharge (LSR) everywhere
- **Status Quo:**
 - All existing Tranche 1 takes (fully exercised), including non-irrigation takes
 - Irrigated LSR where irrigated; dryland elsewhere
 - Used as baseline to compare future scenarios
- **Multiple individual scenarios**
 - Used to calculate higher river low-flow triggers
- **Multiple augmentation scenarios**
 - Augmentation Scenario 4 = optimised with maximum of 15 Mm³/year used
 - Augmentation Scenario 5 = optimised with maximum of 13 Mm³/year used
- **Climate change**

Mr Weir stated³⁰ that the most appropriate application of model results is to predict *changes* in key outputs (river flows and groundwater levels), rather than absolute values. This approach was supported by Mr Thomas for HBRC, and confirmed during expert conferencing³¹.

In response to concerns raised by Mr Thomas, a technical expert supporting the Council's s42A reporting officer, a significant focus was placed by the Applicant on reducing predictive uncertainty in the model results. Mr Weir told us that³², as a result, his uncertainty assessment had estimated that the predictive uncertainty in low groundwater levels is in the order of ±0.03-0.8%, and for low river flows the uncertainty is in the order of ±0.2-0.7% for key low-flow restriction sites and 0.1-5.2% for other gauging sites.

We had some initial concerns about the influence of misfits between measured and modelled values in the calibration. However, we consider the uncertainties described above to be relatively small, resulting in an acceptable degree of confidence in the predictions for the scenarios considered by the Applicant.

Mr Thomas for HBRC confirmed³³ that a number of key issues were resolved by the Applicant following his Evidence in Chief. In summary the issues and his conclusions were:

- (a) The method by which the model was calibrated and how this fed through to model predictions. *These issues were resolved by uncertainty quantification undertaken by the applicant which demonstrates that the range of model predictions now fall into a relatively narrow band.*
- (b) The model calibration to stream flows within the Ruataniwha Basin. *Mr Thomas stated that the model has now been calibrated to stream flows within the basin, and now provides a reasonable match to the observed data for smaller streams and rivers; and*
- (c) Use of the model for drawdown interference effects and drawdown effects in the shallow strata, as well as streamflow effects. *This issue is largely resolved through the model uncertainty assessments, indicating that the potential range of effects fall into relatively narrow bands.*

³⁰ EIC of Julian Weir at Paragraph 4.22.

³¹ Joint Witness Statement – Groundwater Modelling, 11 October 2022.

³² EIC of Julian Weir at Paragraph 4.19.

³³ PDP Memorandum – Review of Ruataniwha Tranche 2 Applicants' Evidence dated 4 November 2022.

We heard from Mr Barrett³⁴ that the update of the modelling report included further updates to better calibrate the model to stream flows within the Basin, and further analysis of model uncertainty. With reference to the Modelling JWS, he provided the following useful summary:

- The level and method of calibration is now appropriate for the data available and model objectives, which are to predict the likely changes in flows and groundwater levels.
- Uncertainty analysis indicates that there is a narrow band of uncertainty band around predicted results and the model provides a reasonable basis for decision making.
- All available data has now been used in model calibration.
- The model adequately accounts for losses and gains in river flows.
- Full water use under the existing (Tranche 1) allocation has been accounted for in the model.
- Efficacy of indirect augmentation via shallow wells should be demonstrated. Aquifer properties and well yields for as yet undrilled wells should also be characterised.
- Asynchronous augmentation resulting from staged development across the applicant group will have minimal impact. Monitoring and review during the early stages of the consents can be used to address this.

Mr Barrett concluded³⁵ that:

"this provides confidence that the results of the modelling can be used to consider the location and scale of the effects of the proposed takes for irrigation and augmentation. Having established this, the implications of the predicted changes in flow and groundwater level can be more confidently considered".

In summary, based on the Applicant's evidence, and the Groundwater Modelling JWS, and Mr Barrett's supplementary s42A report, we conclude that the model construction is generally representative of the hydrogeological conceptualisation of the Ruataniwha Basin, and is an appropriate tool for predicting the effects from the proposed activities. We re-emphasise that the numerical model developed by Mr Weir quantifies the *net changes* in river flows and groundwater levels resulting from the proposed Tranche 2 activities.

While we accept Mr Weir's conclusion in his reply evidence that there is no material change to the uncertainty parameters agreed to by Council's experts in the JWS, our conclusion is subject to some specific limitations, which are discussed later in this decision.

5.2.3 Assessment of Effects

Having heard all of the evidence in relation to the performance and reliability of the model to assess the likely effects of the proposed Tranche 2 takes (about which we agree), we now turn to the application of the model to assess the nature and magnitude of effects.

³⁴ Supplementary S42A Officer's Report of Paul Barrett at Paragraph 16.

³⁵ Ibid, at Paragraph 17.

5.2.3.1 Effects on Groundwater levels

Through the proposed Tranche 2 takes and augmentation regime, we heard that the Applicant proposes to use water stored in the aquifer as a buffer and to support river flows during times of low flow, resulting in greater volumes of water being abstracted from the basin, and over the longer term the water table will reach a new lower dynamic equilibrium³⁶.

At Paragraph 6.4(e) of his EIC³⁷, Mr Weir stated that shallow groundwater levels are predicted to lower a maximum of 0.7 m (compared to the 'Status Quo' scenario³⁸) in the vicinity (1-3 km) of the proposed Tranche 2 take locations, and less than 0.2 m further afield (which covers most of the basin area). Mr Weir also told us that the full effects of the proposed Tranche 2 activities are predicted to take between zero and 40+ years to be fully realised (depending on depth and location). On average, the full effects are predicted to be reached within approximately 10 years and 90% within approximately 7 years.

We did not hear evidence that challenged this key outcome from Mr Weir, and therefore we do not consider reductions in groundwater level of this magnitude to be significant in terms of effects on a regional scale. However, the potential exists for adverse effects at a local scale, both in terms of well drawdown interference effects and adverse effects on stream flows. These local scale potential effects are discussed in more detail in Sections 5.2.3.5 (Well interference effects) and 5.2.4 (Stream depletion effects) respectively.

5.2.3.2 Cumulative Effects

In our decision, we were not required to directly evaluate whether the additional Tranche 2 allocation of 15 Mm³/year is within the sustainable yield of the Ruataniwha Basin aquifer system, beyond the assessments of effects outlined in the Applicant's evidence, and proposed mitigation measures to address the potential for cumulative adverse effects resulting from the Tranche 2 abstractions.

The availability of Tranche 2 groundwater is provided for in Policy TT8(ca) Allocation Limits: *"Enabling additional groundwater to be abstracted as a discretionary activity (Table 5.9.5 Tranche 2) provided that river flows are augmented to maintain the relevant minimum flows specified in Table 5.9.3 commensurate to the scale of effect of the Tranche 2 groundwater take"*.

The allocation regime in PC6 was modified so that *"the availability of deep groundwater in Zones 2 and 3 is increased from 28.5 million m³/year to 43.5 million m³/year once an augmentation regime is in place"*. The full Tranche 2 allocation of 15 Mm³/year is currently unallocated.

We heard evidence³⁹ and submissions⁴⁰ that express significant concern in relation to the magnitude and cause(s) of declining groundwater levels in the Ruataniwha Basin over time.

³⁶ EIC of Julian Weir at Paragraph 1.10 (d).

³⁷ Ibid, at Paragraph 6.4 (e).

³⁸ The Status Quo scenario is used by the Applicant as baseline to compare future scenarios, and includes all existing Tranche 1 takes (fully exercised), incl. non-irrigation takes, and irrigated LSR where irrigated; dryland elsewhere.

³⁹ Summary evidence of Hilary Lough for Hawke's Bay Regional Council – Water Quality and Quantity, at Paragraph 4.1.

⁴⁰ Submissions of George and Gary Williams, and Paul Bailey.

In his reply evidence for the Applicant⁴¹, Mr Weir accepts that some monitoring bores in the Basin indicate declining groundwater levels. In his expert opinion the likely causes of this decline are a combination of:

- (i) Reducing rainfall patterns since the 1970s, with an estimated decline in annual rainfall of approximately 160 mm over the 53 years of record (or an average of approximately 3 mm/year), based on the record at Ongaonga (1969-2022), resulting in reduced recharge. A similar declining trend is evident at TAFT's Gwavas Station property from 1889/90 to 2021/22. Mr Weir confirmed to us that the resultant reduced groundwater recharge is inherent in the groundwater model⁴².
- (ii) The effects of existing Tranche 1 use being realised. This aspect was discussed elsewhere in our decision, noting that the model 'Status Quo' scenario includes full Tranche 1 development.
- (iii) The removal of the water races from approximately 2005 onwards will have reduced recharge into the aquifer. In Mr Weir's opinion, the influence of this removal on further groundwater level change to be minimal in the future.
- (iv) The deepening of some shallow bores to improve groundwater access reliability.

While we did not hear further evidence from the s42A reporting officer or experts for HBRC on the analysis in Mr Weir's Reply evidence, we accept his conclusion that the observed decline in groundwater levels in the Ruataniwha Basin is primarily the result of the factors outlined above, and that they are accounted for in the model.

Mr Willis told us⁴³ that it is his understanding that the Groundwater Modelling JWS records agreement on cumulative effects on declining groundwater levels. Supported by Mr Weir's assessment in his Reply Evidence, we find this to be the case. As stated previously, Mr Barrett also concludes that full water use under the existing (Tranche 1) allocation has been accounted for in the model.

Further declines in groundwater levels are possible in response to climate change. Mr Matheson confirmed⁴⁴ that Ms Rabbitte's Well Interference assessment and Mr Weir's model includes an allowance for further declining rainfall due to climate change. We accept that these assessments include the potential effects of climate change.

The Applicant has proposed consent conditions which require monitoring to validate the groundwater levels predicted by the model, and provide a level of certainty for the protection of the groundwater resource⁴⁵. As stated in the Groundwater Modelling JWS, the experts agreed that model predictions are likely to be different to reality (due to many possible causes).

We agree with this collective view of the experts. If the consents had been granted we would have expected appropriate monitoring and review of groundwater levels in the Ruataniwha Basin during their early stages to address any uncertainties in the model predictions. We would not have accepted

⁴¹ EIR of Julian Weir at Paragraph 2.1.

⁴² Ibid, at Paragraph 2.1(c).

⁴³ EIC of Gerard Willis at Paragraph 14.22.

⁴⁴ Written reply submissions on behalf of Tranche 2 Applicants, at Paragraph 2.4.

⁴⁵ Proposed conditions for Resource Consent - Water Permit (Use of Water) – Take and use monitoring and reporting conditions 20-29.

that the first review and reporting of the Groundwater Review Plan⁴⁶ should be 1 January 2030, as this timeframe is too long to identify and remedy effects greater than those predicted by the modelling. If the consents had been granted, Condition 24(c) should be amended to require the first review at 1 January 2026.

5.2.3.3 Effects on Existing Groundwater Users

At the time of preparation of the PDP reporting officer's summary evidence dated 17 November 2022, concerns remained around further lowering of groundwater levels throughout the basin additional to those assessed in Scenario 5 for 13 Mm³/year, potentially increasing well interference effects and further reducing flows and levels in connected waterways above augmentation sites, due to the increased augmentation take in drier years⁴⁷.

In his reply evidence⁴⁸, Mr Weir confirmed that the Applicant had revised the application, in that the total volume modelled was reduced to 13 Mm³/year, and that both irrigation and augmentation volumes had been reduced. Mr Weir confirmed that the 2 Mm³/year water reserved for augmentation in extreme dry years would only start to be used once the original augmentation allocation was fully used, and this would occur in approximately four years over the 40-year simulation period (i.e. only once every 10 years, on average), and likely only once in the 40-year simulation period modelled.

Mr Matheson told us⁴⁹ that, in this regard, the 2 Mm³ can be regarded as a "strategic reserve" that will remain within the aquifer and will not be at risk of being allocated in the future for consumptive use.

We find that this provides a factor of safety in terms of sustainable management of the groundwater resource in the Ruataniwha Basin, and any Basin-wide cumulative effects can be avoided, remedied or mitigated, subject to strict compliance with final monitoring and reporting conditions. As emphasised previously, our conclusion does not extend to certain local adverse effects.

5.2.3.4 Reversibility of Effects

The Panel held significant concerns in regard to the reversibility of hydraulic impacts, should adverse effects be observed that cannot be appropriately managed or mitigated. Mr Willis told us⁵⁰ that Mr Weir has confirmed the hydraulic impacts of the Tranche 2 takes are reversible. He states that he is also advised by Dr Keesing that any unanticipated effects on ecological health (such as greater than expected stream drying) would be reversible upon cessation or reduction of the Tranche 2 takes.

However, we are not satisfied that the hydraulic impacts of the Tranche 2 takes are reversible in all cases within an acceptable timeframe, such that adverse effects can be appropriately avoided, remedied or mitigated. These effects include:

- Drawdown interference effects in all shallow wells, particularly in drought conditions, whether or not mitigation is offered/implemented,

⁴⁶ Proposed conditions for Resource Consent - Water Permit (Use of Water) – Condition 24(c)

⁴⁷ Summary evidence of Hilary Lough for Hawke's Bay Regional Council – Water Quality and Quantity, at Paragraph 2.1.

⁴⁸ EIR of Julian Weir at Paragraph 5.1.

⁴⁹ Written reply submissions on behalf of Tranche 2 Applicants, at Paragraph 5.5.

⁵⁰ EIR of Gerard Willis at Paragraph 2.2.

- Stream depletion effects in vulnerable water courses, particularly in low (or no) flow conditions that cannot be effectively mitigated through the augmentation regime.

Having heard all the relevant evidence, we have determined that some of the hydraulic impacts of Tranche 2 takes are, at least in theory, reversible, including effects on regional groundwater levels, cumulative effects and drawdown interference effects on deep wells, provided that the causal abstraction(s) cease completely, or are reduced significantly through a regime of stepped reductions (related to groundwater trigger levels) such that adverse effects are avoided, remedied or mitigated.

It is another matter entirely whether any consents we had issued would in practise be reversible. We discuss this further in Section 8 below.

5.2.3.5 Well Interference Effects

The initial well interference assessment methodology proposed by the Applicant was set out by Ms Rabbitte in her Evidence in Chief⁵¹, supported by the evidence of Ms Johansen⁵². This assessment methodology was subsequently revised by Ms Rabbitte in response to the concerns raised in the s42A Officer's report, expert conferencing, by questions from the Panel during the hearing, and in relevant submissions. For the purposes of our evaluation, we have considered the most recent assessment/mitigation proposed by the Applicant⁵³. Ms Rabbitte⁵⁴ said that the use of Tranche 2 water over the longer term will result in the water table reaching a new lower dynamic equilibrium. She confirmed that this lower groundwater level has the potential to adversely impact existing well users within the Basin causing a reduction in their supply security⁵⁵.

We have considered the potential effects on shallow and deep wells separately, given the greater vulnerability of shallow wells to spatial and temporal variations in groundwater levels, particularly in drought conditions.

A Shallow wells (less than 20m deep)

We found the evidence and submissions related to effects in shallow existing wells to be contentious, conflicting, and subject to a number of reassessments by the Applicant to address concerns raised by experts for Council, submitters and from Panel members.

Mr Weir told us⁵⁶ that as the Tranche 2 takes are proposed to be deep, effects spread out spatially, and groundwater storage smooths, delays and buffers the response through to shallow groundwater and rivers. However, we heard from Mr Barrett that it is likely that there will be adverse effects on some existing efficient wells and it was not clear how these can be mitigated. We note that the groundwater response from Tranche 1 takes may be still developing, and the regional groundwater levels will decline in response to the Tranche 2 abstraction.

⁵¹ EIC of Susan Rabbitte at Paragraphs 6.1-6.12.

⁵² EIC of Alexandra Johansen.

⁵³ For clarity we have put to the side previous drawdown interference assessments that have been superseded by the most recent assessment.

⁵⁴ EIC of Susan Rabbitte at Paragraph 1.2.

⁵⁵ Ibid at Paragraph 4.2.

⁵⁶ EIR of Julian Weir at Paragraph 3.5.

Mr Willis⁵⁷ opined that the proposed well interference assessments and conditions will ensure that domestic water supplies are not any less reliable than currently, and may, if the mitigation options are taken up, improve the reliability. Mr Willis' opinion was challenged by the other experts, and we are not satisfied that all supplies would not be adversely affected to a degree that can be mitigated.

A critical issue for the Panel was the ability of the model to accurately predict the static water levels (SWLs) used to assist in determining local drawdown interference effects, due to the groundwater model's grid resolution. For example, Mr Durney in his review of the model⁵⁸ concluded that, due to the groundwater model's grid resolution, it is limited in its capacity to predict local interference effects (i.e. the groundwater level reduction in a bore from pumping a nearby bore), and he suggested the use of suitable analytical approaches.

To address this concern, Mr Weir compared interference effects calculated by the model to analytical methods, and concluded that the two methods are consistent and that the model's prediction of interference in neighbouring bores is sound⁵⁹. Mr Weir then stated that Mr Durney agreed that the methods are consistent, and the numerical model can be relied upon to simulate effects at a local level. However, Dr Dudley Ward stated that⁶⁰ that a key uncertainty is the potentially adverse effects of the proposed development on other groundwater users, and that uncertainty can be managed through appropriate monitoring and controls.

In our experience, validating the output from a fully calibrated numerical model with the results of an analytical model cannot, alone, be relied upon.

We note that POL 77(c) of the RRMP⁶¹ sets out a requirement "*To manage the groundwater resource in such a manner that existing efficient groundwater takes are not disadvantaged by new takes*". The Applicant provides a definition of an "efficient well" in the proposed consent conditions⁶², and that "*Any well that is not efficient is deemed to be inefficient*". We note that while this definition is consistent with POL 77(c), we believe it could potentially penalise legitimate groundwater users and deem them ineligible for the mitigation measures proposed by the Applicant.

We find it unacceptable that a shallow well owner may be potentially unable to exercise a resource consent or permitted activity take of 20m³/day provided for in the RRMP, as a result of Tranche 2 drawdown interference effects.

We had a number of initial concerns regarding the Well Interference methodology used by the Applicant. While many of these concerns were addressed in subsequent revisions, we remain uncertain about the appropriateness of the arbitrary 20% of Available Head to benchmark adverse drawdown interference effects (we acknowledge that this value was derived in the absence of relevant guidance in the RRMP), and that this will be mitigated by the testing regime proposed by the

⁵⁷ EIR of Gerard Willis at his Paragraph 3.6 (d) (iii).

⁵⁸ Durney, P (2022). Independent review of Aqualinc's Ruataniwha Groundwater model used in support of tranche 2 takes. Report: 1040-16-R1. Lincoln Agritech Ltd. 30 May 2022.

⁵⁹ EIC of Julian Weir at Paragraph 1.6.

⁶⁰ Statement of Evidence of Dr Nick Dudley Ward on behalf of the Applicants at Paragraph 4.5.

⁶¹ Hawke's Bay Regional Resource Management Plan Re-published as at 14 August 2021 at p107.

⁶² Proposed conditions for Resource Consent - Water Permit (water take) – condition 7(f).

Applicant. We also note a general lack of in-well inspections to confirm that the proposed mitigation measures will be effective.

In her memorandum dated 29 November 2023, Ms Rabbitte informed us⁶³ that the Applicant proposes to amend Condition 8 of the draft Tranche 2 groundwater take consent⁶⁴ to simplify the eligibility criteria and focus the mitigation efforts to the areas with the greatest drawdown impact from the proposed Tranche 2 abstractions.

The Applicant also seeks to now include provision for stock water takes at the same level as that previously offered for domestic use. In her review of the proposed change, Ms Rabbitte states that some distant shallow domestic wells, and ‘a few slightly deeper ones’ in the Takapau area will not be compensated.

We do not necessarily accept Ms Rabbitte’s suggestion that they already have a public supply well option in Takapau, given that this option may be impractical/cost prohibitive for users distant from the reticulated supply.

Mr Willis told us that interference mitigation provisions in proposed consent conditions have been expanded to give greater protection to stock water wells. We heard in submissions⁶⁵ outlining concerns about running out of water supply for stock, and “who carries the liability for that”. The extension of the mitigation requirement to stockwater use is supported by this Panel, not least because this use is permitted by the RRMP and under the RMA⁶⁶.

The Applicant had proposed consent conditions which require new bores to be tested, and interference assessments to be completed, in order to provide a level of certainty for the protection of existing groundwater users⁶⁷. We consider this to be standard industry practice, and appropriate for the proposed Tranche 2 abstraction wells.

However, we have concerns about the workability of the Applicant’s proposal⁶⁸ whereby the Consent Holder will need to come to some arrangement with any such affected well owners before being able to take Tranche 2 water, including for example, limitations on the rate or timing of the take.

The amended consent conditions proffered by the Applicant in their Right of Reply would require the provision of a *Groundwater and Small Stream Review Plan*, in which measured groundwater levels will be compared to the modelled predictions. While validation of the model’s predictions is a critical step, the first review period was not proposed to be until 1 January 2030, which we consider to be an inappropriately long period of time in which to determine whether or not adverse effects may be occurring, and to remedy them, should they occur.

We consider a single mitigation payment of \$5,000 to the owner of an affected well would be insufficient in some cases to implement the improvements required to mitigate adverse effects. We understand that this was intended to enable the installation of a submersible pump or water tank to

⁶³ Memorandum attached as Appendix A to the Written Reply Submissions dated 1 December 2022.

⁶⁴ Amended set of conditions appended to the Written Reply Submissions dated 1 December 2022.

⁶⁵ For example, the Submissions of Colin Shaw and George Williams.

⁶⁶ Hawkes Bay Regional Resource Management Plan.

⁶⁷ Proposed consent conditions – Condition 7(k).

⁶⁸ Statement of Supplementary Evidence of Gerard Willis at his Paragraph 2.3(d).

ensure supply of water was not affected. We note that this sum would be insufficient to deepen an existing shallow well, should that prove necessary.

B Deep wells (>20m deep)

We heard from Ms Rabbitte and Mr Weir that adverse effects of the Tranche 2 takes on deep wells is largely negligible due to the typically large available water column in these deeper wells. However, a number of deep wells may be affected to some degree.

We did not hear conflicting evidence on this matter, and therefore determine that the testing regime set out in proposed Conditions 11-13⁶⁹ is appropriate to ensure that the extent of interference effects is assessed on an individual basis, and mitigation measures adopted, if necessary.

We conclude that potential drawdown interference effects on deep wells resulting from the Tranche 2 takes can be appropriately managed or mitigated. Any residual uncertainty can be addressed through the proposed monitoring conditions.

Our conclusions/determination on effects on existing groundwater users

Having weighed the evidence we have heard from the Applicant, the PDP experts supporting the s42A reporting officer and in relevant submissions, we are not satisfied that adverse effects on existing shallow groundwater users through drawdown interference effects can be appropriately avoided, remedied or mitigated in all cases, and particularly in drought conditions.

Potential drawdown interference effects on deep wells resulting from the Tranche 2 takes can be appropriately managed or mitigated, and any residual uncertainty can be addressed through the proposed monitoring conditions.

We also note that submissions indicated there was very little (if any) community support for the application, some of whom are existing groundwater users.

5.2.4 Effects on Stream Depletion and Maintenance of Minimum Flows

As noted earlier in our decision, following further updates to better calibrate the model to stream flows within the Basin⁷⁰, the model is considered (with certain limitations) appropriately constructed and calibrated to predict the likely changes in flows and groundwater levels, and to adequately account for losses and gains in river flows. Predicted changes to river flows in response to the augmentation regime are presented by Mr Weir in his Evidence in Chief and Reply Evidence (as change in mean 7-day MALF (l/s).

We heard from Mr Barrett⁷¹ that the minimum flow at Red Bridge increases to 5,200 L/s in 2023. In response to his recommendation that augmentation also be triggered based on flows at Red Bridge, the Applicant amended its proposed conditions to include Red Bridge⁷², and reduced the volume and rate of take of Tranche 2 groundwater limit for each component landholding accordingly. We

⁶⁹ Proposed conditions for Resource Consent - Water Permit (water take) – Conditions 11-13.

⁷⁰ Joint Witness Statement – Groundwater Modelling, 11 October 2022.

⁷¹ Supplementary S42A Officer's Report of Paul Barrett at Paragraph at Paragraph 24.

⁷² Proposed conditions for Resource Consent - Water Permit (Use of Water) – Condition 6.

considered this to be an appropriate amendment to the proposed conditions, because minimum flows at Red Bridge may occur at a different time to the proposed upstream trigger flows.

5.2.4.1 Augmentation regime

We continue to have concerns in relation to the efficacy of the augmentation regime, particularly in the upper reaches of watercourses (upstream of SH50). Augmentation is a novel approach for mitigation of adverse effects on stream flow⁷³. Mr Weir confirmed⁷⁴ that to his knowledge, no analogous precedent exists in New Zealand or internationally to provide us with confidence around the performance and efficacy of augmentation as a mitigation approach.

In his evidence, Dr Dudley Ward⁷⁵ informed us that the idea of augmenting surface flows potentially depleted by groundwater abstraction is a novel aspect of the current proposal. He noted that the key uncertainty here is establishing its efficacy. In his expert opinion, injecting groundwater into shallow wells directly hydraulically connected to the relevant stream is less likely to be effective than direct discharge of augmentation water directly into streams.

The Applicant had proposed Consent conditions⁷⁶ that require the Consent Holder to demonstrate the efficacy of the augmentation discharge in terms of making any discharge to shallow wells subject to testing by a suitably qualified expert and confirmation as to the connection to surface water. We consider this testing regime to be appropriate and sufficient for this purpose.

The Consent holder would have been required to prepare an Augmentation Discharge Plan (to be certified by Council) that, *inter alia*, sets out the proposed location or locations of the augmentation discharge(s)⁷⁷. In response to our questions, Mr Thomas stated that if the augmentation discharge locations were to move from the locations modelled, then he would have less confidence in the predictive uncertainty as currently reported.

We comment further on “augmentation” in Section 8 of this decision.

To address Mr Thomas’ concern, Mr Weir⁷⁸ told us that the proposed consent conditions constrain the augmentation discharge to occur adjacent to (or within) the property boundaries. He modelled different augmentation take locations to test the sensitivity of these locations, and resulted in only a small difference to mitigation of effects on low flows from the proposed Tranche 2 activities, and no material change to the range in predictive uncertainty as agreed in the JWS.

We heard from Mr Weir that⁷⁹, following his reassessment of the TAFT augmentation locations, recommended that the augmentation discharge points are targeted at the original locations (including TAFT’s single-point discharge), and could be *within approximately 500 m upstream of the sites would be* adequate, or any distance downstream, and this would not materially affect modelled

⁷³ EIC of Julian Weir at Paragraph 1.1

⁷⁴ In response to a question from the Hearing Panel.

⁷⁵ Statement of Evidence of Dr Nick Dudley Ward on behalf of the Applicants at Paragraph 4.2

⁷⁶ Proposed conditions for Resource Consent - Water Permit (Use of Water) – Conditions 13 and 14.

⁷⁷ Proposed conditions for Resource Consent - Water Permit (Use of Water) – Condition 11.

⁷⁸ Amended set of conditions to the Written Reply Submissions dated 1 December 2022.

⁷⁹ EIR of Julian Weir at Paragraphs 4.4.

effect on flows at the low flow trigger sites⁸⁰. In the absence of further evidence to the contrary, we accept the evidence of Mr Weir on this matter.

In response to PDP experts' concerns related to groundwater near Inglis Bush, Mr Weir in his reply evidence⁸¹ states that changes in shallow groundwater levels in the Inglis Bush area are predicted to be less than 0.08 m, and likely dominated by the local response of pumping and not materially by other takes over the larger basin area. It is his opinion⁸² that if Tuki Tuki Awa's augmentation water was to be discharged into Inglis Bush, subject to Department of Conservation approval⁸³, that this would provide positive hydraulic benefit to the reserve and downstream waterways.

To address any uncertainty in relation to effects in the vicinity of Inglis Bush, the Applicant has proposed specific consent conditions⁸⁴, including a *Inglis Bush Scenic Reserve Groundwater Monitoring Plan* to monitor any adverse effects from the Tranche 2 takes, and the efficacy of the augmentation regime.

With regard to Inglis Bush we find that the suite of measures set out in proposed consent conditions, in conjunction with direct augmentation discharge to Inglis Bush (subject to DOC approval), would likely have ensured that any adverse effects can be appropriately managed or mitigated as a result of the proposed Tranche 2 abstraction at Tuki Tuki Awa.

5.3 Effects on Instream Ecological Values

This was an issue of some contention prior to (via the JWS) and at the hearing, and so is one we will discuss in some detail.

There was agreement between Dr Keesing and Ms Drummond in their JWS about several matters relevant to this particular assessment. They included:

1. The invertebrate biota of streams sampled in the Ruataniwha Basin was described as "simplistic" and well adapted to impacted conditions.
2. Many small streams in the basin are already impacted, and any further drawdown will likely add to cumulative drying effects.
3. Water level change was the most practical option to assess effects.
4. Use of 1 March as a "typical summer" is appropriate, with 1 March 2011 chosen as "worst effects" date (based on Mr Weir's modelling), and 1 March 2001 chosen to represent a more typical summer.

⁸⁰ Amended set of conditions attached to the Written Reply Submissions dated 1 December 2022 - comment bubble of Gerard Willis in proposed Condition 8.

⁸¹ EIR of Julian Weir at Paragraphs 6.2.

⁸² Ibid, at Paragraph 6.3.

⁸³ Proposed conditions for Resource Consent - Water Permit (Use of Water) – Conditions 7 and 11(e).

⁸⁴ Proposed conditions for Resource Consent - Water Permit (Water Take) – Condition 6.

5. Riparian planting of small streams will not provide meaningful ecological mitigation and may cause additional water reductions through transpiration.

There were however matters that remained in contention, which included the magnitude of the effects of additional drawdown on the ecological values of small streams, on fish communities and on the hyporheic fauna (which was speculative, as they had not been sampled). In general terms Dr Keesing considered that such effects will not be significant, whereas Ms Drummond took a more conservative view, saying that there was insufficient information to draw such conclusions. We observe that these differences of opinion might have been less marked had Dr Keesing's field work been carried out in a dry summer, rather than during a "wet summer" in 2022 when stream flows were about average in the study area.

The Applicants' approach to the instream effects of the proposal was a little disjointed. In Section 6 of her evidence Ms Johansen discussed the potential effects of the Applicants' proposal on water levels in various water bodies during an "extreme dry event". This was based on Mr Weir's model. She divided the basin into three areas: the north of the study area, west of SH50, and central and eastern areas. She concluded that while the predicted changes in surface water levels "are unlikely to result in significant effects on most of the naturally occurring waterways", but that in some waterways in the central and eastern waterways, such as the Kahahakuri Stream "effects would be measurable".

Dr Keesing took the information he gathered in 2022 and put it into his Table 1, which addressed predicted water level changes in a variety of rivers and streams in the Ruataniwha Basin. We found this somewhat difficult to follow as changes in water levels only were assessed, not changes in flows or wetted spatial area, either of which we would have found more meaningful. It was also divided into riffles, runs and pools; our experience is that as flows fall in small gravel bed streams, run habitat begins to disappear so that eventually pools and some runs are linked only by riffles, and if those riffles largely or entirely dry up, only pools remain as refuges for any fish in the stream.

In his evidence Dr Keesing concluded⁸⁵ that in relation to small streams:

In my opinion the changes occur to streams already experiencing considerable periods of surface dry and the change will be sufficiently minor and small that no measurable effects are likely. This is because of a current seasonal lack in flow, the retention of inter run meander bend pools, coupled with a very tolerant and low-quality suite of aquatic instream fauna, and generally no or limited number of fish (longfin eel which retreat seasonally).

Lower eastern streams are too deep and with soft muds and macrophytes that are too deep to be affected even by higher level drawdown predictions.

There may be, in some riffle habitats in the losing reaches of the basin (west of SH50) where there will be an exaggeration of the usual seasonal drying effects (up to 6 additional days and less deep surface water presence), but this is not a new or high magnitude change. The effect of a more prolonged

⁸⁵ At his Paragraphs 7.1 – 7.3.

*surface dry situation will be a deeper and/or longer migration for species into the hyporheic zone. This will not cause the loss of or decline in the aquatic communities.*⁸⁶

We do not believe the findings he presented in his evidence, nor the evidence of other experts, justifies these conclusions, particularly those in the first and third paragraphs quoted above. As shown by Ms Johansen's evidence there will be measurable effects on water levels, stream morphology and flows in many small streams. Fish, including eels, will be stranded in pools more frequently in some small streams, where they are susceptible to predation by birds, such as herons or black backed gulls, or even mustelids. In dry years such strandings already occur, as evidenced by the video presented by the Ratu/Pekepo whanau, which showed 81 eels being rescued from an isolated pool on the Kahuhuakuri Stream and transferred to the Waipawa River. Clearly long finned eels cannot "retreat seasonally" if they are stranded in pools in a stream where flows are falling and pools are becoming isolated. Nor do we necessarily agree that aquatic invertebrates will survive in the hyporheic zone in very dry conditions.

In our view granting the T2 applications will inevitably have some adverse effects on invertebrate communities, and particularly on fish communities, in small streams. We make no finding that these effects are significant, but we do not accept they can be dismissed as "*sufficiently minor and small that no measurable effects are likely*". Augmentation will do little to mitigate these effects, particularly where the water taken for augmentation is from groundwater close to a watercourse, which will itself result in surface flows being depleted before they are equally replenished.

In their final draft conditions of consent the Applicants proposed conditions that would provide for a "fish recovery plan" to be developed and implemented. While we see this as possible mitigation, and (at least indirectly) conceding that granting the T2 applications would lead to further fish strandings in isolated pools in small streams, we do not consider it sufficient to overcome our concerns about such events becoming more frequent and widespread, particularly in dry years.

5.4 Effects on Water Quality

There are potential effects on water quality in both groundwater and surface water bodies. While the two are strongly linked, we deal with them in turn.

Groundwater nitrate-N concentrations already exceed NZ Drinking Water Standards in at least a few wells in the Ruataniwha Basin⁸⁷, so any additional leaching attributable to the Applicants' proposal could be of significant concern.

The main potential effects on groundwater quality are from the leaching of nitrogen (N) to groundwater as a result of land use. This was addressed primarily in the evidence of Mr Allen, an expert witness for the Applicant.

In summary Mr Allen concluded that the overall effects of the Applicant's proposal would potentially lead to a slight overall decrease in N leaching from the T2 properties (his Table 1). To do so, he relied on the now discredited "Overseer" model. We say discredited because a review released by the

⁸⁶ In his Evidence in Reply Dr Keesing reinforced some of what he said in his evidence. For instance, in his Paragraph 3.6 he said "*that is the essence of my assessment - that the aquatic and stygofauna of the low surface flow/ drying regime in existence today with other land use related effects in the majority of small streams, will not change (it will not get better, but it will not get worse either), hence a largely absent level of adverse effect related to the tranche 2 water tacks*" (sic).

⁸⁷ See the Figures below Paragraph 54 of Mr Tiuka's submission.

Parliamentary Commissioner for the Environment (Simon Upton) in 2018 said Overseer was seriously flawed, opaque and open to “gaming” by farmers, and then his report was reviewed by an independent scientific panel, who concluded that:

“We do not have confidence that Overseer’s modelled outputs tell us whether changes in farm management reduce or increase the losses of nutrients, or what the magnitude or error of these losses may be.” And that “Overseer is not adequate to provide more than a coarse understanding of a farm’s nutrient losses”.

We put these criticisms to Mr Allen, who acknowledged Overseer’s deficiencies but said what the findings of the modelling did was indicate “a direction of travel”. We do not have the same confidence in the modelling given that Overseer can only provide a coarse measure of nutrient losses, which we would understand to be a margin of error of up to 20%. The exact Overseer numbers relied on by Mr Allen do not in our view support his conclusion that overall N leaching will decrease as a result of the T2 applications being granted.

One of the PDP reporting officers, Ms Katherine McCusker, took a somewhat different view to the modelling to what we have. In summary, she said:

“...nitrogen losses to groundwater are:

- *Likely to remain at a similar level: Papawai, Tukituki Awa, I & P farming, Buchanan Trust No. 2*
- *Likely to decrease: Plantation Road Dairies, Springhill Dairies, TAFT (if the 200ha orchard is developed)*
- *Insufficient information to determine: Purunui (baseline or current information is missing and recent Overseer modelling is significantly higher than earlier modelling).”*

Given that the Overseer modelling is subject to significant errors, we make no overall finding if N leaching losses will decrease or increase as a result of the Applicants’ proposal.

If we had decided to grant the T2 applications this is a matter that would not have unduly concerned us. This is because seven of the eight properties⁸⁸ for which consent was sought would have required separate production land use consents from the Council, as water quality in catchments they part in or in exceed the relevant standard in the RRMP⁸⁹. Reductions in existing calculated N leaching would have had to be demonstrated so that this standard would be met in the receiving stream or river environment.

The other water quality issue raised was that the discharge of augmentation water could affect surface water quality in the rivers or streams to which it was proposed it be discharged. This assertion was based on perceptions that the quality of deep groundwater in the Ruataniwha Basin is somewhat different from that in surface water bodies. For instance, Ms Laura Drummond, one of the PDP reporting officers postulated that nitrate-nitrogen, ammoniacal-nitrogen, dissolved reactive phosphorus, dissolved oxygen and metals concentrations in groundwater could cause adverse effects to smaller streams receiving augmentation water. We were not convinced by the evidence available

⁸⁸ The exception is Papawai.

⁸⁹ Which is that Dissolved Inorganic Nitrogen concentrations not exceed 0.8 milligrams/litre.

that this would be the case, and so we regard this as a potential effect of little concern, and not an adverse effect that would in turn much affect instream values.

5.5 Positive Effects

The possible positive effects of the Applicants' proposal were addressed in the evidence of Mr Allen for the Applicant. He said that the aggregated net economic benefit for the eight properties was \$5.7 million per annum, which equated to a return of 12% (pre tax) on the approximate \$36 million that would need to be invested. Assuming a very conservative discount rate of 20%, he said net present value becomes positive after 16 years. Up to 72 jobs would be created if 260ha of land were converted to horticulture.

We accept that there are potential positive benefits from granting the T2 applications, although they are not particularly strong. We also observe that despite potential job creation from some possible T2 developments, submissions indicated there was no community support for the application.

5.6 Conclusions re Actual and Potential Effects

Having weighed all the evidence we find that not all of the potential effects of the Tranche 2 abstractions can be appropriately avoided, remedied or mitigated. In summary:

1. The surface water bodies of the Ruataniwha Basin have significant cultural values, including mauri and collection of mahinga kai, and these values would be further degraded by the Applicants' proposal.
2. We find that effects on groundwater levels, drawdown interference effects on deep (greater than 20m deep) wells, and most cumulative effects can be appropriately avoided, remedied or mitigated (provided proposed resource consent conditions are amended, as set out by the Applicant in their right of reply).
3. We consider that drawdown interference effects on shallow (less than 20m deep wells), and effects on stream flow may result in significant adverse effects, which cannot in all cases be appropriately avoided, remedied or mitigated. We note the potential effects arising from the individual takes will vary based on a range of factors specific to each abstraction (including location/setting, abstraction rate, hydrogeological characteristics etc). We have not considered the effects of the applications on an individual basis.
4. It remains unclear to us whether the proposed augmentation regime is sufficiently well defined by the Applicant to determine its compliance with Policy TT8(c)⁹⁰, the purpose of which is to maintain the relevant minimum flows specified in Table 5.9.3. While the Applicant's evidence⁹¹ indicates that augmentation can likely maintain minimum flows at relevant flow monitoring sites within the Ruataniwha Basin (and at Red Bridge), its efficacy is not adequately demonstrated in other water courses, including those to the west (upstream) of SH50.
5. We believe that the Applicant's proposal will have adverse effects on invertebrate, and particularly fish communities in rivers and streams within the Ruataniwha Basin. This will not be substantially mitigated by the proposed augmentation at some sites, including for instance augmentation proposed by TAFT and Plantation Road Dairies.

⁹⁰ Hawkes Bay Regional Resource Management Plan – Policy TT8(c). Table 5.9.5 Tranche 2.

⁹¹ EIR of Julian Weir at Paragraph 5.4 and Table 2.

6. While there may be adverse effects on groundwater quality if the Applicants' proposal had gone ahead, this could have been dealt with appropriately in the separate production land use consents that would have been required for seven of the eight properties covered by the application. Such consents would have likely required reductions in nitrogen leaching losses from these properties.

5.7 National Policy Statement for Freshwater Management 2020 (NPSFM)

The NPSFM commenced on 3 September 2020. Unlike previous iterations of the NPSFM in 2011, 2014 and 2017, which we would describe as evolutionary, the NPSFM 2020 contains very significant new provisions. Most notably, it includes a new overall Objective, fleshes out Te Mana o Te Wai into what are called six principles, and includes a suite of new policies.

The objective of the NPSFM 2020 reads:

- (1) *The Objective of this NPS is to ensure that natural and physical resources are managed in a way that prioritises:*
 - (a) *first, the health and well-being of water bodies and freshwater ecosystems*
 - (b) *second, the health needs of people (such as drinking water)*
 - (c) *third, the ability of people and communities to provide for their social, economic and cultural well-being, now and in the future.*

In his evidence Mr Willis opined that the Applicants' proposal can be considered as putting the health and well-being of water ahead of the ability to take and use water.⁹² The arguments he used to support this were that the take was in accordance with several provisions of the RRMP, notably that the Board of Inquiry decision considered at the time that the T1 and T2 tranche takes were considered to be "sustainable" and that augmentation flows are to be discharged commensurate with the scale of effect".

We do not accept this argument. The BOI decisions were made under different provisions in the NPSFM⁹³, and so do not mean that the applications comply with Objective 1 of the NPSFM 2020. It specifies a clear first priority, and a clear third priority (the second priority is ambiguous – are for instance wastewater disposal and hydro power generation included in the "health needs of people" and so second tier considerations?). Flows in rivers and streams and the "health" of the biota in them, along with the "well-being" of surface water and groundwater bodies, are given much higher priority than are taking and use of water to provide for social and economic well-being. This is set out plainly and our decision needs to reflect this objective.

Te Mana o Te Wai was incorporated into the 2017 iteration of the NPSFM as an Objective that had to be "considered and recognised", along with a policy that required Regional Councils to change regional policy statements or regional plans to do so, while noting two matters, the most important of which was to recognise the connection between water and the health of each of the environment, the waterbody and the people.

⁹² EIC of Gerard Willis at his Paragraph 5.7.

⁹³ In both the 2011 and 2014 iterations of the NPSFM.

Mr Willis opined that Te Mana o Te Wai does not mean water cannot be taken and used for social and economic benefit, but rather it can be to the extent that the health and well-being of the water is not compromised. As discussed in our assessment of effects of the proposal on instream ecological values, we consider these values will be compromised by the Applicants' proposal.

In the NPSFM 2020 Te Mana o Te Wai is now defined in six "principles". Two of these principles are significant considerations in our decision. They are:

Mana whakahaere: the power, authority and obligations of tangata whenua to make decisions that maintain, protect and sustain the health and well-being of, and their relationship with freshwater.

Commissioner Kirikiri reads this as meaning the ability of manawhenua to meet their kitiakitanga responsibilities for the health and continued well-being of wai in all the awa in this (or any) rohe in order to ensure the survival of intergenerational traditions, and ongoing knowledge transfer, upon which communities thrive.

Governance: the responsibility of those with authority for making decisions about freshwater to do so in a way that prioritises the health and well-being of freshwater now and into the future.

We have been appointed by the HBRC as independent commissioners to hear and decide the present application for a resource consent to take and use Tranche 2 groundwater from the Ruataniwha groundwater aquifer. This is a governance role delegated to us, and we are making decisions about freshwater. In a way largely consistent with the objective of the NPSFM, we must prioritise the health and well-being of freshwater now and into the future. We view this as a clear and unambiguous direction.

The NPSFM 2020 also includes 15 policies. Some of these are in large part new to the NPSFM (e.g. Policies 3, 4, 9 and 15), others were included in the 2017 iteration of the NPSFM, albeit worded somewhat more pedantically (e.g. Policy 11).

The most relevant policies from the NPSFM 2020 (in italics, with commentary in normal format) are:

Policy 1: Freshwater is managed in a way that gives effect to Te Mana o te Wai.

Policy 2: Tangata whenua are actively involved in freshwater management (including decision-making processes), and Māori freshwater values are identified and provided for.

The submissions made by tangata whenua, and the evidence provided at the hearing, demonstrated what their freshwater values are in the Waipawa and Tukituki catchments. In particular, they sought the return of mahinga kai species, including black flounder and tuna (eels). While there is strong evidence that past overfishing has led to a nationwide decline in tuna stocks, low flows in rivers and streams in the Ruataniwha basin have undoubtedly led to stock declines in those water bodies. While low flows, and indeed dry stream reaches will still occur in these water bodies, the frequency and length of these dry spells would have been somewhat exacerbated by the granting of the Tranche 2 consents.

Policy 3: Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.

We have considered the effects of the proposed use and development of land on the catchments of the Tukituki and Waipawa Rivers, and their tributaries in the Ruataniwha Basin. We need not repeat

that here. We also note that if consents had been granted, seven of the eight consent holders would have had to seek resource consents for discharges of nitrogen to the environment, as in the sub catchments they are in, instream DIN limits in the RRMP are exceeded. This would have required reductions in estimated nitrogen leaching losses from the seven properties.

Policy 4: Freshwater is managed as part of New Zealand’s integrated response to climate change.

While we are not entirely clear what New Zealand’s integrated response to climate change is, confident and consistent predictions are that the east coast of both main islands, including Hawke’s Bay, will suffer more prolonged and severe droughts in the future. The Applicant has sought a consent term of 20 years, which is maximum provided for by the RRMP. Their predictions about water use and its effects are based primarily on historical records, which may not reflect the actual climate in the next 20 years. This means that the frequency and duration of low flows are likely to be more common, and so the effects of the Applicant’s proposed takes more marked and with adverse effects occurring more frequently than predicted from historic records.

Policy 9: The habitats of indigenous freshwater species are protected.

The net effect of the Applicants’ proposals is that water will be lost from surface water bodies in the Ruataniwha Basin, and there will be some habitat loss in rivers and streams as a result of this. While many of the rivers and streams do go dry “naturally” already, the net effect of taking additional water is that existing habitat for indigenous freshwater species will be further degraded. “Protection” is a very high and quite absolute threshold test, and we find that the proposal is not consistent with protection of the habitats of indigenous freshwater species.

Policy 11: Freshwater is allocated and used efficiently, all existing over-allocation is phased out, and future over-allocation is avoided.

We consider that the Applicants’ proposal would use groundwater efficiently. Total irrigation volumes are limited to those calculated by Irricalc to be sufficient for a 1 in 10 dry year. All the water proposed to be taken and used would be distributed using spray irrigation, which, managed well, is at least as or more efficient than any other form of pasture or crop irrigation.

Many submitters asserted that the Ruataniwha aquifer is already overallocated⁹⁴. We very much doubt “technically” that is the case. Mr Weir has estimated that there are about 15 billion cubic metres of water stored in the aquifer, and noted that the Applicants’ proposal would take up to 0.1% of that water.

On the other hand, many existing water users report falling levels in stock or domestic supply wells over the last 5-10 years in particular.⁹⁵ This suggests current use of the aquifer, be it for irrigation, stock supply or domestic use, is affecting water levels in many wells. While the aquifer may not be technically overallocated, for many smaller water users adverse effects are already occurring, and full use of the Tranche 1 groundwater already allocated but not yet taken will likely exacerbate these effects. Taking and use of Tranche 2 water would exacerbate them further.

⁹⁴ Such as Mr Tiuka in his Paragraph 19

⁹⁵ Examples include Mr Holdem and Dr Frater. More quantitative evidence was given in Paragraph 4.5 of Mr Thomas’ expert report attached to the s42A Officers’ Report.

Policy 15: *Communities are enabled to provide for their social, economic, and cultural well-being in a way that is consistent with this National Policy Statement.*

We see this as something of “wrap up” policy that enables the use of water for social, economic and cultural well-being provided it is consistent with the other provisions in the NPSFM.

As discussed above we have found that the Applicants’ proposed taking and use of groundwater is not consistent with other key provisions in the NPSFM.

5.8 The Hawke’s Bay Regional Resource Management Plan (the RRMP)

The RRMP is a combined Regional Policy Statement (RPS) and regional plan for the region. They were both included in one document, and made operative in 2006, since when nine separate Plan Changes have been notified by the Council. Six are operative, including PC6 which dealt with water and land use in the Tukituki Catchment.

Both the RPS, and parts of the RRMP, reflect the time at which they first became operative, which is over 15 years ago. Both contain provisions that can be read to support the Applicant’s proposal; others can be read to oppose it. Accordingly, we have not given very strong weighting to provisions in either the RPS or RRMP, except insofar PC6 to the RRMP contains provisions that relate specifically to the Tukituki catchment.

The RRMP is presently being reviewed to be consistent with the provisions of the NPSFM 2020. The Council calls this the “Kotahi Plan”, and the NPSFM directs that it (somehow) be notified no later than 31 December 2024. In the meantime, many of the more relevant provisions in the RPS and RRMP predate any of the national policy statements on freshwater (the first of which was gazetted in 2011). For this reason, we also consider more weight should be given to the NPSFM 2020 provisions, which we have already discussed, ahead of those in the RPS or the RRMP.

Both Mr Willis for the Applicant, and Mr Barrett, the s42A reporting for the Council, reviewed the relevant provisions of the RPS and the RRMP. While agreeing on many matters, they came to different conclusions. For instance, Mr Willis said that *“in his opinion the Tranche 2 application is consistent with the RPS objectives”*⁹⁶, while in assessing the provisions of the RPS Mr Barrett concluded that *“the proposal is not consistent with key relevant objectives and policies of the RPS, including those that relate to avoiding effects on existing groundwater users, managing water quantity to sustain aquatic ecosystems, allocation of water and potentially, the protection of cultural values.”*⁹⁷

These diametrically opposed conclusions are in good part explained by the reliance of Mr Willis and Mr Barrett on quite differing assessments of effects. The former relied on expert witnesses called by the Applicant; the latter on the PDP experts who reported on the applications.

Some greater consensus between experts was reached in the three JWS’s, which were provided long after Mr Barrett provided his initial s42A report on 8 August 2022. In his supplementary s42A report dated 8 November 2020 Mr Barrett continued to assert that the Applicant’s proposal is “not consistent with critical Regional Policy and Regional Plan provisions”.⁹⁸ In response, Mr Willis pointed particularly to proposed conditions of consent, argued that effects are “reversible”, and took a different view to

⁹⁶ EIC of Gerard Willis at Paragraph 5.32.

⁹⁷ S42A Officer’s Report of Paul Barrett at Paragraph 261.

⁹⁸ Supplementary S42A Officer’s Report of Paul Barrett at Paragraph 65.

Mr Barrett on three broad matters, specifically the adequacy/accuracy of the well interference assessment and the mitigation offered, the efficacy of augmentation and adverse effects on small streams.

We have already discussed these actual and potential effects in detail in Sections 5.1- 5.6 above. There we concluded that none of cultural effects, effects on shallow bores, or effects on flows in rivers and streams, and the biota that dwell in them, would be adequately avoided, remedied or mitigated by the final set conditions proposed by the Applicant.

5.8.1 The Regional Policy Statement

We find that the Applicants' proposal is not necessarily consistent with part or all of the following provisions of the Regional Policy Statement:

Objective 23 seeks *“the avoidance of any significant effects on the long term quantity of groundwater in aquifers and on surface water resources.”* While we accept fully that there would be no significant effects on the quantum of the groundwater resource of the Ruataniwha Basin from granting the T2 applications, there are adverse effects on surface water resources that cannot be avoided, even with the augmentation proposed by the Applicant. Mr Willis considered these effects were not significant.⁹⁹ Any such test involves a value judgment; ours is effects on surface water resources will certainly occur and may be significant, but are not proven to be so.

Objective 24 is *“avoidance or remedy of any significant adverse effects on water takes on the operation of existing lawful efficient groundwater takes”*. Similarly, Policy 28 is to *avoid, remedy or mitigate any significant interference of new takes of groundwater on existing efficient groundwater takes*. We observe that there is inconsistency between the objective and policy here, with only the latter providing for mitigation, which we consider to be the correct approach.

Despite however the extensive mitigation put forward by the Applicant in their final proposed conditions of consent, as already discussed we do not consider that this sufficient to mitigate effects on shallow bores that take water for activities such as domestic supply and stock water in the Ruataniwha Basin.

There are also some other Objectives and Policies with which the Applicants' proposal is not consistent with. Examples include protection of, and not having significant adverse effects on areas where mahinga kai is collected (Objective 37 and Policy 65 respectively).

These matters aside, we find that the Applicants' proposal is not directly contrary to other Objectives and Policies in the Regional Policy Statement.

5.8.2 The Regional Resource Management Plan

We could, somewhat unkindly, describe the relevant provisions of the RRMP as muddled. This is because while the original plan was first made operative in 2006, it has subsequently been amended by a series of Plan Changes, including PC6 which specifically addressed the Tukituki catchment, and most recently by the Council being obliged to include provisions from the NPSFM 2020 into the existing RRMP.

⁹⁹ EIC of Gerard Willis at Paragraph 5.32.

Like many plans of its generation the provisions of the RRMP can be read to both support and oppose the Applicants' proposal. There are however three specific provisions that weigh against granting the present applications.

Policy 66B was inserted to comply with the NPSFM; it requires that the “*loss of river extent and values*” is “*avoided*”. In his s42A report Mr Barrett opined that as streams could have “reaches that are drier for a longer duration or a greater distance” the Applicants' proposal is not consistent with this policy. We agree with him; the policy is directive and requires that such effects be avoided, which is a strong threshold test.¹⁰⁰

A series of Objectives and Policies were inserted into the RRMP by PC6. The most significant of these is Objective TT1. We find that the Applicants' proposal is contrary to two provisions of this objective, namely those that require:

Groundwater levels, river flows, lake and wetland levels and water quality maintain or enhance the habitat and health of aquatic ecosystems, macroinvertebrates, native fish and trout. As the Applicants' proposal will reduce stream flows and affect aquatic ecosystems and biota, these will not be maintained or enhanced.

The mauri of surface water bodies and groundwater is recognised, and adverse effects on aspects of water quality and quantity that contribute to healthy mauri are avoided, remedied or mitigated. This clause of Objective TT1 will not be achieved by the Applicants' proposal, particularly given augmentation cannot fully mitigate adverse effects.

5.9 Statutory Acknowledgments

Statutory Acknowledgements arise as part of the Treaty Claims Settlements process. They are essentially recognition by the Crown of iwi/hapū cultural, spiritual, historical and traditional association with specific areas of Crown owned land. This includes areas of land, geographic features, lakes, rivers and their beds, wetlands, and coastal marine areas.

Such acknowledgements are recognised under the RMA and the Heritage New Zealand Pouhere Taonga Act 2014. A key purpose of statutory acknowledgements is to incorporate iwi/hapū interests and values into resource management decision-making. Local authorities are obliged to recognise statutory acknowledgement areas in their planning processes.

Ms Diane Smith, in her evidence, outlined that the Tamatea Deed of Settlement`2018 included 27 Statutory Acknowledgements covering the Tukituki River and its tributaries, and the Waipawa River and its tributaries, all within the Ruataniwha rohe. The Regional Council updated this list as recently as February 2022, in the context of the then proposed Plan Change 7 (Outstanding Water Bodies Plan Change) exercise. Both sets of acknowledgements describe how the two rivers came into existence and highlight the important various pā sites along their banks that bind hapū to one another and how these rivers once provided an abundance of kai for all. The review also recognised that there were possible outstanding cultural and spiritual values that needed to be taken into account in the overall regional planning processes, emphasising the significance of the river environments to manawhenua.

¹⁰⁰ Whether an “avoid” policy is a sensible threshold test is another matter entirely. Section 5(2)(c) of the RMA requires that adverse effects be avoided, remedied or mitigated, and that is the long-standing threshold test for proposed activities. To “cherry pick” the most restrictive “avoid” element of this and say it applies universally to all freshwater is questionable at best.

Ms Smith concluded with a comment from Te Taiwhenua o Tamatea Incorporated that reads “Culturally significant waterways and indigenous kai - many noted as nearly extinct”.

Ms Smith’s point is well taken by the Panel in that protection and repair of these river systems is essential for the future health of te taiao, even as degraded as they have apparently become. She argued that the Applicants’ Proposal would not address or alleviate this situation. We do not disagree with her.

6 Part 2 of the Act

Decisions on resource consent applications are made “subject to Part 2 of the Act”. We discuss these provisions in turn.

6.1 Section 5 – The Purpose of the Act

Section 5 of the RMA states its purpose and defines the sustainable management of natural and physical resources. It says (in paraphrased form relevant to the present application):

Section 5, *inter alia*, enables the use, development or protection of natural and physical resources, and seeks to enable people and communities to provide for their social, economic and cultural well-being while:

- (a) Sustaining the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations; and
- (b) Safeguarding the life supporting capacity of water and ecosystems; and
- (c) Avoiding, mitigating or remedying any adverse effects of activities on the environment.

Granting the present application would help provide for the social and economic well-being of the applicant group. However, there will be an associated reduction in the life supporting capacity of some rivers and streams in the Ruataniwha Basin, and so we have reservations this would be safeguarded. Similarly, as already discussed there are adverse effects on cultural values, on the biota of some rivers and streams and users of shallow groundwater that we do not consider can be appropriately avoided or mitigated by the Applicants’ final proposed conditions of consent.

6.2 Section 6 – Matters of National Importance

Section 6 of the Act lists seven matters of national importance that decision makers have to recognise and provide for. Several are potentially relevant to the present application.

The first of these is s6(a), which requires among other things that rivers, wetlands and their margins be protected from inappropriate use and development. It may be that the wetland at the south east corner of Inglis Bush is a “significant” wetland, which deserves some protection. While Dr Keesing was dismissive of this proposition in his Evidence in Chief, Mr Deckard, who knows the area extremely well, suggested it may well hold significant indigenous vegetation. On balance, the evidence we heard was inconclusive about the wetland and its values, or what the effects of the T2 takes on water levels in the wetland would be. For these reasons we make no finding about this particular wetland.

We had no evidence that any of the eight individual T2 applications require additional consideration under this clause.

Section 6(c) states that the protection of areas of significant indigenous vegetation and the habitats of significant indigenous fauna is a matter of national importance. Mr Deckard provided strong evidence that Inglis Bush is an area of significant indigenous vegetation, being a sizeable remnant of the original vegetation that cloaked the banks of the Tukituki River. In his presentation to us he quoted from a Department of Conservation inventory report that called Inglis Bush “a superb remanent of towering totara, kahikatea and maitai”. It clearly saddened him that some old kahikatea trees in the reserve are dying. While this might be largely attributable to two recent drought years, and closing of old water races, groundwater levels below the bush will have fallen due to existing downgradient groundwater abstractions, and this would be further exacerbated, although perhaps only slightly, if all the T2 applications had been granted.¹⁰¹

Section 6(e) states that the relationship of Māori and their culture and conditions with their ancestral lands, waters, sites wāhi tapu and other taonga is a matter of national importance. We heard comprehensive evidence from members of Ngāti Kahungunu that their ancestral waters do not hold anything like the same values that they did one or two generations previously. We broadly accept that evidence, and we accept that granting the T2 applications would have further eroded the relationship between manawhenua and their ancestral waters in the Ruataniwha basin.

6.3 Section 7 – Other Matters

Section 7 of the Act lists 11 other matters that we must have particular regard to in this decision.

Neither Mr Willis, nor Mr Barrett drew our attention to any matters in Section 7 that we particularly needed to consider. There are several matters that are of some relevance to the present application.

In relation to Kaitiakitanga, we heard many submissions from manawhenua and we have addressed the cultural concerns they raised in Section 5.1 of this decision.

Mr Willis opined that being able to use high class land more efficiently, such as (we assume) via more cropping, was an efficient use and development of natural resources.¹⁰² Although we think this a bit of a “stretch” of this provision, we broadly accept what he said.

Elsewhere in this decision we have addressed the finite characteristics of both the quantum of the Ruataniwha groundwater resource, and effects on other values. We have found the Applicant’s proposal would have almost negligible effects on the very large groundwater resource of the basin, but that it would affect cultural values, flows in some rivers and streams and the biota that live in them, and users of shallow groundwater.

The Applicants’ proposal will have some adverse effects on the habitat of trout in rivers and streams in the Ruataniwha Basin. We do not have any great concerns about this because the Environment Court has found trout are “from an ecological viewpoint, pests”, and this finding was upheld by the High Court.¹⁰³ We have also considered the effects of climate change.

We conclude that there are no matters listed in Section 7 that weigh strongly in favour of either granting or declining the application.

¹⁰¹ An exception to this general statement is that if consent had been granted to Tuki Tuki Awa, the specific mitigation the Applicant proposed would have very likely enhanced the ecological values of Inglis Bush.

¹⁰² EIC of Gerard Willis at Paragraph 12.4.

¹⁰³ *Lindis Catchment Inc v Otago Regional Council* (2019) NZEnvC 166 such as at Paragraphs 172, 205 and 212.

6.4 Section 8 – The Principles of the Treaty of Waitangi

This section states that in achieving the purpose of the Act, all persons exercising functions, duties and powers under it shall take into account the Principles of the Treaty of Waitangi (Te Tiriti o Waitangi). Nothing in the application suggests these principles were not taken into account.

Tangata whenua were invited to participate in the development of the proposal, but declined to do so. We have discussed this elsewhere in this decision. We find that the duty to consult was complied with.

An opportunity was provided to prepare a cultural impact assessment, but for various reasons this was not taken up. We find that the processes followed by the applicant group were carried out in good faith, albeit rather misguided in the “offer” of unallocated water to manawhenua.

The key issues for tangata whenua were degradation of natural resources, and seeking ways to address them in today’s context. Arguably that is a process for a partnership approach to resolve.

7 Decision

We have decided to decline the applications. There are two main reasons for this. The first is that provisions in the National Policy Statement for Freshwater Management 2020 include words that direct us to prioritise the “health and wellbeing” of freshwater versus it being used or developed. In particular Principle (d) of Te Mana o Te Wai, the “fundamental concept” of the NPSFM, refers to “Governance” and says:

“the responsibility of those with authority for making decisions about freshwater to do so in a way that prioritises the health and well-being of freshwater now and into the future”

We are making a decision about freshwater. Accordingly, the NPSFM directs us to prioritise freshwater values ahead of resource use and development.

Similarly, the Objective of the NPSFM seeks to ensure that “the health and well-being of water bodies and freshwater ecosystems are prioritised” with “the ability of people and communities to provide for their social, economic and cultural well-being, now and into the future” being only a third tier consideration.

The second reason is that we are not persuaded that the potential adverse effects of the application can be avoided or mitigated. They include effects on cultural values, on flows in surface water bodies and associated effects on the biota that dwell within those water bodies, and effects on other current users of shallow groundwater, including for irrigation, stock water, and domestic supply.

This was summarised succinctly by Ms Hilary Lough, a technical expert supporting the Council s42A reporting officer, who in her final comments to us concluded that:

“The applications seek a very significant increase in groundwater abstraction across the Ruataniwha Basin, which will have a number of adverse effects. We do not consider that these effects have been adequately addressed in the information provided or in the consent conditions. We consider that many of the effects will be very difficult to manage and mitigate, even with further changes to proposed conditions.”

Regarding the NPSFM provisions, Mr Matheson said in his verbal closing that surely it was not the Government's intention that applications such as the Ruataniwha Tranche 2 should not proceed. He might be right. But the plain meaning of the words quoted above from the NPSFM indicate the intention was to protect freshwater environmental values ahead of the use and development of water resources. Those words are the primary driver for our decision to decline the T2 applications. To our knowledge, no case law yet exists as to how these provisions are to be interpreted.

In our view there is a conflict between the Purpose of the RMA, as set out in section 5, and the NPSFM 2020. Section 5 says, *inter alia*, that natural and physical resources can be used or developed provided life supporting capacity is retained and effects are avoided, remedied or mitigated. Extensive case law exists on s5 is to be interpreted; it does not say freshwater resources have to managed to give strong priority to environmental values.

Previous iterations of the NPSFM were iterative. There was a logical progression from the original NPSFM gazetted in 2011 through the 2014 and 2017 iterations. As a result, there was some certainty as to how its provisions were to be interpreted. No strong weighting was given to the protection of freshwater values versus its use and development.

This is not the case with the 2020 iteration. The NPSFM was almost completely rewritten. A new objective was included, and Te Mana o Te Wai was much expanded to include six principles. New policies were included. It is those changes, which appear to have been made in an arbitrary fashion, that are the strongest drivers for our decision.¹⁰⁴

If our decision is indicative of the outcomes the Government seeks from the current NPSFM, so be it. If they are not, it needs to be amended with some urgency.

8 Additional Comments

As we have said if the words in the NPSFM 2020 did not strongly underpin our decision to decline the present application, it would still likely be turned down because of the potential adverse effects of the proposal.

This however does not necessarily apply fully to all the individual applications. Assessment of cultural effects and effects on other users of groundwater aside, if we had been considering all the applications individually, and primarily on the basis of effects and how appropriate their augmentation proposals would have been as mitigation, one or two may have been granted. Tuki Tuki Awa is the best example, particularly when the draft set of conditions provided by the Applicant in their right of reply indicated augmentation could be via bores that would supply water to Inglis Bush. Equally however, most would have still been declined.

The more extensive mitigation proposed in the final reply would have to been supported by each of the eight applicants collectively. Quite how that might have been funded was a mystery to us – with no proposal for instance to provide bonds or bank guarantees that would have provided a mechanism

¹⁰⁴ An example is Policy 9 of the NPSFM, which requires that the habitats of freshwater indigenous species be protected – regardless of whether those habitats support mahinga kai or other species of conservation value, rather than very common species such as some bullies, which can be found in very large numbers throughout the South Island, and southern parts of the North Island, including the Ruataniwha Basin

for collective funding of the various mitigation proposals. It may have also been difficult to enforce conditions of consent that required a collective action against all the individual consent holders.

Another issue we raised early on was whether some conditions should be imposed to restrain or prevent the transfer or partial transfer of any of the consents to another resource user. This is because the RMA (and particularly s136) takes a permissive approach to transfers of resource consents. Given that augmentation was highly consent and location specific, we could not see how transfers could be readily provided for without very comprehensive information. The Applicant proffered no condition that would constrain future transfers of consents, or specify precisely in what circumstances they could have taken place.

The Applicant asserted that the consents, if granted, would be “reversible”. While that might be true in theory, it is not in practice. The only way consents, once issued, can be reversed is by the Council reviewing the consents and determining that their effects are more severe than portrayed in the Assessment of Environmental Effects. If the Tranche 2 consents had been granted, we do not believe the Council could have provided such evidence in an unequivocal, “black and white” way. Accordingly, we do not accept the Applicants’ proposition that the consents are “reversible”.

We also observe that 70 out of 72 submissions made clearly opposed the applications. In our experience this is unusual in a rural community where additional development would bring extra employment, and so people, into the district. While we are well aware that the RMA is not “a numbers game”, it does indicate that there is little, if any, local support for the Applicants’ proposal.

Augmentation

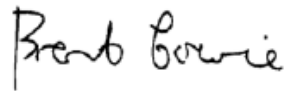
We would describe the provisions in the RRMP for taking Ruataniwha Tranche 2 water as challenging, or perhaps even tricky. Groundwater can be taken, but only if surface water bodies are “augmented” to off-set adverse effects. How, when and where this might occur was a blank canvas that each of the eight members of the applicant group had to populate. Whatever they chose to do would be open for criticism, and we were amongst those who did so. In fairness, most of the augmentation options eventually put forward made sense to us. Overall, however, the net use of groundwater for irrigation, which is largely lost from the water resource of the Ruataniwha Basin, means that augmentation, however well designed, cannot replace or mitigate the T2 water proposed to be taken and used for irrigation.

It also appeared to us that in some instances “augmentation” was simply taking water from a bore close to a surface water body, which would have very strong hydraulic connections to that water body, and putting the water back in that same surface water body, albeit more directly. Examples include Papawai, which modified their original proposal to having a bore close to the Waipawa River just downgradient of SH50, and Buchanan Trust No. 2, which proposed to take water for “augmentation” from a bore close to the OngaOnga Stream. In circumstances like these we doubt “augmentation” would have any benefits for river flows; rather they are an expensive means to the same ends of potentially retaining more water in the river and/or stream. The provisions in PC6 require augmentation flows be provided as part of all applications to take and use T2 water; examples such as these show the folly of a “one size fits all” approach with a complex plan requirement.

The Council is presently obliged to notify a new “NPSFM 2020 compliant” Regional Water Plan by the end of 2024, which will include the Tukituki and Waipawa catchments. If the Tranche 2 water is to be retained in the plan – and we have significant doubts that it should be – it should not be tied back

necessarily to “augmentation”. Rather we believe this should be a policy matter that must be addressed in any resource consent application to take T2 water, instead of being a mandatory requirement as is presently the case.

24 February 2023

A handwritten signature in black ink that reads "Brent Cowie". The signature is written in a cursive style with a large initial 'B'.

Dr Brent Cowie

Chair of the Hearing Panel

On behalf of Commissioners Mr Rauru Kirikiri and Mr Tony Cussins