

Meeting Thirty-Seven Record

When: Thursday 22 February 2018 , 9:00am – 4:30pm

Where: Te Taiwhenua o Heretaunga, 821 Orchard Rd, Camberley, Hastings 4172

- Note: this meeting record is not minutes per se. It is not intended to capture everything that was said; rather it is a summary of the proceedings with key comments noted. *Text in italics indicates a response from HBRC to questions posed during the meeting.*
- *Where additional information has become available subsequent to the meeting (such as answers to questions unable to be answered in the meeting), this is included in red italics*

Key to text boxes

	Actions required
	Recommendations
	Decisions, agreement/disagreement

Meeting Objectives

1. Agree to stormwater and urban water management framework
2. Understand Tutaekuri Values
3. Agree stream depletion management
 - Steam flow Augmentation
 - Ngaruroro storage scheme
 - Riparian land/wetland management
4. Provide feedback on plan drafting

AGENDA ITEMS

1. Welcome and karakia

Robyn Wynne-Lewis greeted everybody and a group member opened the meeting with a karakia. Members then sung a waiata acknowledging the passing of a colleague last night.

2. Apologies, housekeeping, Agenda, meeting objectives and notices

- Housekeeping matters covered.
- Apologies were confirmed (see attendance table above).
- The meeting agenda and objectives were outlined.
- Ground rules for observers confirmed.
- Engagement etiquette was covered.
- Review of minutes and actions from meetings 33, 34, 35 and 36 deferred until later in the day
- Open floor for TANK members for notices and announcements.

3. Notices

None

4. Introduction to Urban Water Management

Rina introduced the Stormwater and Urban Water session.

Ross McLeod CEO – Hastings District Council

Ross shared with the group the existing strategies, evolving particularly in the water space where there has been significant changes. He highlighted that there is strong commitment to water demand management and conservation, as well as a strong commitment to stormwater issues in terms of quantity and quality. The Council's services are fundamental to the

overall prosperity, progress and growth within Hawkes Bay. He noted that there is an absolute commitment through the LTP and the organisation. Ross then introduced the team - Brett Chapman and Matt Kneebone (HDC), Tony Cussins from Tonkin & Taylor and Annette Sweeney from Good Earth Matters Consulting.

Matt Kneebone (HDC Stormwater Manager) - HDC Stormwater Management

Matt explained that HDC were issued with a Network consent in May 2010 with discharges related to the Urban and Stormwater network. The duration of the consent 12 years (until 2022), with 40 conditions of consent, some of which are very prescriptive and will be very difficult to achieve in short time frames. The consent is of an adaptive nature which allows to move from consent conditions into a catchment management plan to manage the individual catchments, of which there are 15 urban catchments.

The Base Administration Map presented highlighted the areas managed by HBRC, HDC and the individual catchments. Matt noted that Hastings is slightly unique in that it's a slightly raised island in the middle of the HBRC area and is often referred to as an upside-down saucer. The water from Hastings falls into the surrounding tributaries.

Matt noted the Amahoe Road area is not covered by the HDC consent, it's a mixture of two ground and two pipe network disposal solutions. It doesn't form part of the consent. HDC are working with Regional Council on managing discharges to land and discharges to the HDC pipe network. There are five themes which HDC have identified as common to all 40 conditions, these are:

- Quantity
- Quality
- Management and Maintenance of the network and individual sites
- Monitoring and compliance
- Education and information

The Catchment Management Plan essentially allows the Council to implement change and strategies for the benefit of improved Stormwater quality and management of Stormwater quantity in relation to flood risk. As part of developing the CMP, HDC looked at what needed to be done in the 12 year period.

A self-help tool was developed for small developments for commercial, residential use and especially around the CBD, providing an opportunity for developers etc. to determine if they fit within the district plan rules for stormwater discharge. When more than 50% impervious coverage is proposed, mitigation would be required for stormwater run-off before it gets into the network e.g. roof tanks to slow the flow and mirror the natural run off.

Matt noted that there are distinct differences with the Ruahapia catchment, it's heavily industrialised with a high percentage of impervious nature. One of the things that has become apparent during studies is, there is no upstream environment for Hastings. So whatever comes out of the pipe end, the quality is assessed via the consent and via the ANZEC guidelines with a 95% protection of species. There is a challenge around the appropriateness of the ANZEC guidelines at that level, as there is no mixing zone or receiving environment and in some instances the drains will be man-made drainage ditches, it is not a natural water courses but are still subject to assessing the discharge into the environment under the 95% guidelines for ANZEC. As such the Ruahapia catchment exceeds the guidelines quite dramatically in many places. There is not a high level of contamination in the Havelock North catchment nor is there accumulation of contaminants in the Karamu stream.

Matt presented examples of what is being done:

- Lyndhurst – new residential area with site buffering and large areas that can store stormwater. These detention ponds can also double up as recreational areas. Also roof tanks have been promoted.
- Omahu Road industrial rezoned area - each site will develop and submit a site specific stormwater management plan highlighting their risk areas, loading/unloading zones, where contaminants are stored, how chemicals are dealt with and stored, spill management/control. Similar to a FEMP. Pre-treatment is required of specific contaminants.

- Catchment monitoring – targeted to the two worst catchments. Lowes Pit - looking at how we can convert the old quarry pit into an enhanced area for stormwater disposal. This would be a ‘polishing wetland’ rather than “an ambulance at the bottom of the hill”.
- Reducing contaminants in the environment - this is a longer term approach that will require regulation. Some strategies such as prohibiting zinc roofing and cladding materials through a rule in the district plan. Matt noted that industries themselves are changing, adapting and modifying their products. Another example is components for car manufacturing e.g. Brake pads, clutch discs, tyres. Contaminants that come off the vehicles get trapped in the road space which in turn gets discharged into the downstream receiving environment. This will require both on site controls and community controls. HDC recognise that success requires a Regional approach and the alignment of plans, rules and policies.

Questions & Answers

A Tank member congratulated HDC, noting the Council have come a long way in a short time. Questioned what other ways the contaminants being reduced (to the Karamu) other than dilution from Ruahapia?

Matt - The focus is on industrial areas where contaminants are at their greatest in terms of concentrations and that was clear from the Ruahapia/Havelock comparison. 70% is housekeeping, low hanging fruit can be picked up. Source control and what happens in the road space are the two biggest generators of storm water contaminants. There are things that we can't control e.g. car accidents, firefighting and illegal dumping.

Further piping does not seem to be on your agenda (from at risk areas)?

Matt - The challenge there is, if we pipe it, where do we pipe it to? Piping won't remove the contaminants. The source control strategy will help us to trap the contaminant at the source rather than separate it out. There is no treatment plant for stormwater. Piping would just extend the problem.

Do you treat the un-confined, semi confined aquifers differently?

Matt - Yes we do but it's governed by regional rules as well, if it's discharged to land as opposed to a pipe network. There are no legal control or mechanisms for HDC to allow and to permit a discharge to land outside a regional council consent.

For new development the standards have been raised. Are the standards sufficient for existing operators particularly in the industrial areas?

Matt - Existing land use rights makes it difficult to retrospectively impose standards from a legal point of view. Land owners and occupiers do have existing land use rights which is a different process to the new development areas like Omaha where we do have land restrictions in place.

How do you determine whether someone is legally meeting the requirements?

Matt - The discharge standard is the network consent whether it's at the pipe end or at the individual connection at our network.

Could we change that discharge standard for existing users if we were concerned about that?

Matt - Yes, we can go up the pipe to that individual discharger, take a sample, monitor it and see whether that fits into the framework of the network consent. If it doesn't, they are required to get what is called a controlled discharge approval from HDC and we'll put the same conditions on the network consent on those individual consents.

Could you remove the zinc from the sediment? Could you impose controls to make roofing/cladding with zinc non-compliant? In tandem with stopping it at its source and cleaning up where it's already been contaminated? Is that part of the stormwater management to prevent that sedimentation from accumulating at the lower ridges of the Karamu?

Matt – It would be difficult from a legal and financial point of view to do this and a huge in cost on all individuals to replace all their roofing materials straight away as a result of zinc in the network. It needs to be a long-term strategy, the industry is changing and providing new roofing products and have already phased out galvanised products, you can no longer buy galvanised iron. The Regional Council controls the waterways, they do the dredging. Question whether this is the right thing to do because all that is doing is masking the fact that contaminants are still generated from upstream. The key is source control at the top, long term management strategies at a regional level as to how that accumulated sediments can be removed from the stream over time.

Concern with the Omahu and unconfined aquifer, will Omahu be consented in the future similar to the rest of those other urban stormwater catchments?

Matt - The new area for Omahu has already been consented for the discharge to land using the treatment train. Contaminants need to be removed before it can be discharged to land. That's the same process for individual source control within the existing area.

Does the Councils have the same definition of where the confined and unconfined aquifer, is it the same maps?

Tony Cussins - They are entirely consistent, we are using HBRC's groundwater model.

Jerf - What are you doing with the urban areas and what changes are going to be made there? Controls of washing cars in urban areas is a quick fix in the urban area.

Tony - The two new residential areas that we are doing structure planning for is Iona middle in Havelock and Howard Street in Hastings, we will build low impact design into those developments. That would be roadside swales and detention ponds. We suggest washing cars on grass as opposed to washing them on hard stands.

Brett Chapman (Water Service Manager) – Urban Water Supply

Brett outlined the key components of the presentation as water allocation, HDC consent and what Council are doing in terms of water conservation and demand management. He noted that HDC supplies potable water to various communities. The main urban supply feeds potable water to over 57,000 people via 23,000 connections. Those connections are both domestic, commercial and industrial. HDC have expanded this in recent years to Bridge Pa (2009) in response to declining groundwater levels and joined up Paki Paki in 2017 due to ongoing concerns with the bore. The supply draws water from a number of different bore fields primarily in Eastbourne and Frimley. In Hastings there are bores on Wilson Road and Portsmouth. In Flaxmere, Brookvale is the borefield which is being phased out over the next few years and Napier Road has been decommissioned.

Annette Sweeney (Good Earth Matters Consulting) – Water supply consent and allocation

Annette noted that the Hastings consent which covers Hastings and Havelock North was renewed around 2012. At which time the annual allocation for the whole system was capped, bringing in some of the other consents under that cap. When the consent was released in 2012, there was about 6.4 billion l/pa that was surrendered as an annual allocation available for the system. Anette noted that there is a stepped allocation which provides for growth, only if that growth actually occurs.

Tony Cussins (Tonkin & Taylor) – Source Protection Zones

There has been extensive investigations into the HDC Groundwater supply area. The risks of contamination have been highlighted due to the Havelock Inquiry. There is a strong requirement to protect the source which is mandated within the Health Act and meeting HDC's duty to protect source water. Another element is the ageing of groundwater and confirming secure groundwater and example of this is Wilson Road Bore. HDC is undertaking work to understand and manage sustainable abstraction. Eastbourne and Frimley being the primary sources. Looking at the feasibility of new source areas to augment with the objective being to sustainably maintain that abstraction within the existing consents while managing any adverse effects including streamflow depletion.

Brett Chapman - Water Conservation and Demand Management

Brookvale consent was granted 2008, there was a requirement to develop a water conservation demand strategy which has been in place for the last ten years. Key components of the strategy are; getting our own house in order; looking at what can be done on a network level to help reduce lost water; encouraging wise water use; raising awareness around water issues; adopting strategies and techniques in the home to help reduce consumption; and the more traditional water restriction strategy which is imposed at various times of the year.

By reducing pressure resulted in reduced usage over time. This allowed leakage to be monitored and measured more closely.

HDC reviewed the water supply Bylaw. This enables direct controls particularly to industries and commercial areas using larger quantities of water, to be metered. HDC only supply potable water to the large industrial users. Their processed water is from their own bores, our component is quite small in terms of their overall water use.

Brett presented a number of examples of efficiencies which have been introduced e.g. pop-up irrigation, new technology being adopted around soil moisture metering, more watering at night and drought tolerant species, as well as education and engagement with the community.

In terms of the low flow restrictions, this process allows HDC to impose various ranges of restrictions and these are linked to conditions in our consent. The trigger levels are based on the Mangateretere Stream, once that gets to a low flow condition HDC initiate water restriction status.

Annette Sweeny – What we've achieved and future predicting results

Annette spoke about the pressure management areas noting the savings on a day to day basis. In terms of leakage it's about 670m³/day, in summer when peak use is on, there is also a saving of about 600 m³/day by less water being consumed. Anette noted that there is opportunity to extend and accelerate that programme into the whole network. The potential saving will be up to 3000m³ per/day in terms of leakage.

Questions & Answers

Why aren't we measuring every water user in the catchment?

Ross - It is not an efficient use of capital (\$30 million) at the moment from our perspective, to install meters at every gate.

Brett - We are not ignoring urban metering, the key to success is incentivising people to want to have meters e.g. smart technology to turn off taps and sprinklers etc.

Tom Belford - Your state there will be a 2% increase in water usage with growth, if TANK were to say we need to reduce your water consumption by 5% over ten years, how challenging would you find that?

Brett - Network leakage at the moment is 21%, we are targeting 15% which seems to be a national level. Our investment in achieving a 5-6% reduction in leakage is realistic and that's what we are targeting anyway in terms of our proposal strategies. There have been a lot of the additional uses come into the network and our consumption is still pretty much the same. Additional connections have been absorbed with little impact on use. There are huge discrepancies in the information available (across New Zealand) is not comparing apples with apples. We are already demonstrating that we are doing it. If our business is expanding, how much traditional water should be allocated to allow for that expansion. It's a perspective in terms of how much water we are using, as opposed to being shown what is actually used.

I am a Havelock North resident with a water meter. On an individual basis, when I look at the 'Encouraging wise use' section of the presentation, I don't appear on this page because I'm doing that already. If I was told that I had to install water tanks or waste or grey water tanks, I'd sit up and take notice and that for us here is a quid pro for what we are asking the farming horticultural community to do. Don't think it's good enough to say it's too hard for legal reasons.

Brett - We can only control it through the building consent, if there is an existing house and they put an extension on and they breach that threshold by doing that extension they have to put a water tank in. There are other opportunities such as putting community systems in place, rather than on the individual.

Ross - It's very difficult for us to take the steps you are referring to as we have to operate within the law e.g. The Building Act.

Robyn – queried if there was an appetite within the TANK group for putting a bit more pressure on urban water users to use less for domestic supply, what is the mechanism to achieve that?

Ross - HDC have to operate within the law and if there is no legal mechanism then it becomes difficult. The TANK group will probably look at measures under the RMA, those are things that usually affect new development. We are keen to contribute to the development of the regime that is going to manage this.

If you put pressure on urban people they will put pressure on per-urban/lifestyle areas. What plans do you have in place?

Brett - Only have control over the reticulated network. There has to be a discussion about when does it get to a level where a better solution is to have a network reticulation as opposed to individual systems. It's something that we considered but in

terms of the information that now around Groundwater policy and its susceptibility to contamination. The issues that we are facing as a community network provider in terms of water quality, those issues are exactly the same for an individual user in a rural area drawing groundwater from the ground. What are they doing around public health and safety for themselves and their community? We should looking at overall water quality and how it impacts on our community whether on a reticulated supply or not.

The subdivision rules allow people to move out to rural areas which creates a bigger problem on the local streams, waterways and underground water supplies and I don't see anything in your plans that is going to control the treatment of water and waste water.

Brett - Matt talked about that, we have to have regional rules in place and see whether these need to change.

HDC are the largest water users. Should TLA's share the costs for mitigation of impacts on water bodies?

Ross - We are charging domestic users, any actions that we take in terms of stormwater or water conservation are recovered through targeted rates or general rates whichever is appropriate.

It's not a tool to change behaviour, "if you measure you can manage". Charges don't change people's behaviour.

A member congratulated HDC on the solutions presented. However, there is a missing link with individual users. If TANK agrees to potable water being an exception to that rule, that allocation will actually be deducted from everybody else. There is no reason why everyone can't be capped to the 2013 levels including municipal supplies. If TLA's can't prescribe to efficiencies then they should be required to subscribe to storage in a way that the rest of the community is going to have to learn to live with. The rest of us are faced with requiring new storage for growth, I don't see why you can't be a part of that.

Brett – We are putting in an additional 20,000m³ of storage in accordance to our five year plan. The reality is that even if every household had a 1000l of storage, which is a day or day and a half water use. Need to look at long term storage e.g. three months

A member clarified that he is talking about storage from the Ngaruroro or Tutaekuri, so that HDC are not drawing any further on the aquifer and having any effect on that.

Brett - May be a large consent holder but people and industry come to HDC for additional supply

A member queried whether the risk matrix takes into account aquitards?

Tony - Considers all of it in three dimensions and time

If you were within the one year zone HDC wants to know as an affected party to protect source water.

Can we help you on definitions of semi-rural and peri-urban?

The Group broke for coffee.

A whiteboard question was presented to the Group by Mary-Anne. This was to be emailed to all members for as new Recommendation 2.1. It was agreed that the members would email Ceri their responses to Recommendation 1 and 2.

Recommendation 2.1

In relation to urban water supply and stormwater management

- What additional matters do we need to consider for the Plan Change?
- Are you happy for the HBRC/NCC/HDC to develop these (policies and rules) further and report back

Action: Recommendation table to be updated including recommendation 2.1, and circulated post-meeting. Members to email feedback to Ceri.

Jon Kingsford – NCC Water Supply

Jon presented on Water Supply noting that the NCC water provides for domestic, commercial and industrial needs as well as an obligation to provide for firefighting needs, similar to Hastings a lot of industries have their own water source and their

ability to provide their own water. NCC currently have a population of 61,000 people with 25,550 water connections. There are two distinct supply areas, Napier and Bay View supply area (high water users are metered). The water permit expires in 2027. Our assets are very high level, of that 61 000 people we have 25 550 water connections.

The NCC cumulative rate of water take from all bores, the allocated limit is 784 litres/sec, the current maximum take is 606 litres/sec at peak. The estimated 2048 maximum take assuming no change in per capita consumption is 790 litres/sec which is the equivalent of our current consented take. NCC believe with efficiencies within the community this could be down to around 300 litres/p/d which would be around 600 litres/sec/d.

Consented Volumes vs Actuals and Projections

Condition	Allowed limits of take	Current maximum take from all bores	Estimated 2048 maximum take no change in per capita consumption, 440 l/pers./day (excluding wet industries)	Estimated 2048 maximum take, targeted future per capita consumption 300 l/pers./day (excluding wet industries)
Cumulative rate of take of water from all bores	784 litres/sec	606 litres/sec	790 litres/sec	<600 litres/sec
Cumulative 7 day maximum take from all bores	387,744 cubic meters	283,000	327,550	223,325

Jon highlighted that NCC are cognisant of national policy statement on freshwater management and also have obligations to provide for urban development and growth within our city. The challenge therefore is how to manage that and balance the way Council invest effectively and be a responsible entity within our environment.

NCC have embarked on a water conservation strategy and the importance of educating our community and have commenced public education, pressure management, metering and monitoring, targeted leak detection, dedicated water taking points. Universal water metering should potentially be left on the table as a long term option.

NCC are strongly enforcing water restrictions. There is belief that the per person per day water use can be reduced with some reasonable gains to be made in the short to medium term and to deliver a really efficient water use number though implementation of stronger controls. NCC are producing below what the consented take cap is and as an organisation believe they can readily surrender the consent take without any impact on production.

Water quality is a major focus for NCC as it will be across New Zealand. NCC are committed to providing their community with safe, potable water.

Jon noted that the recharge zone is not in Napier boundary and NCC need to work very closely with all stakeholders within the Heretaunga plains to understand

Jon Kingsford – NCC Stormwater

Jon noted that approximately 75% of stormwater is pumped to the Estuary/sea. Part of the thinking in the long term around sea level rise will impact on the current stormwater system due to the low gradient of Napier. He also noted that there are some uncertainties in terms of ownership of infrastructure and discussions are ongoing with HBRC.

NCC are not hiding from the fact that they have stormwater quality issues, however Jon noted there are difficulties in identifying the source of the problem. NCC are embarking on modelling to address this. They are also looking at a number of opportunities to look at reducing contaminants from the waterways, such as Bylaws which identify dischargers of contaminants ‘up-drain’. The Thames/Tyne drain is an ‘At Risk’ Area.

Catchment Management Plan are being developed looking at solutions such as housekeeping, in-drain solutions ‘polishing wetland’ requiring capital investment, stormwater quality improvement devices at end of pipe.

Jon noted that NCC are working with HBRC on Purimu Drain/Pump Station and Onehunga Pump Station to make improvements.

Action: Circulate electronic copies of the HDC and NCC presentations to the Group

Questions & Answers

How is Napier supported by other low-lying port cities in respect of climate change?

Jon – NCC is in discussions with Tonkin and Taylor in regards to this, currently not aware of all the issues and it is unclear exactly what the impact of climate change will be

There have been recent E-Coli readings in the drinking water in Napier, what are the reasons for this?

Jon – Believe this was caused from a reticulated water network infrastructure, not the source water, but after Havelock the Council cannot assume that the bore water doesn't pose a risk. NCC have a number of individual facilities to treat water at present, but looking to provide a systems whereby there is instant chlorination. But no decision has been made on whether to permanently chlorinate yet. Most of the issues have been around the reservoirs. NCC have reviewed all of the management procedures. Last occurrence happened off a long narrow pipe in Park Island where there was low water turn over, but don't know exactly how the problem arose.

There was E-Coli detected in one of the NCC bores

Jon – This bore is now offline, due to the integrity of the casing. NCC will be undertaking CCTV of all bores, but there is a lot more work to do.

Why is NCC only looking at the issues and solutions now?

Jon – In the last couple of years this has become a priority. NCC are becoming a lot more transparent to the public as safety is paramount.

Suggest NCC need to zone all of Lagoon Farm for wetland purposes, dependant on an investigation of contaminants. NCC own the land, shouldn't allocate this for housing.

Jon – the Masterplan does allow for changes in this area, though it is not fixed on location or plant species, but focussed on a collaborative approach as there is a lot of expertise within the community to draw from.

Feel the pain for Ahuriri – when you see the scientific figures for that environment

Jon – a lot of opportunities to improve the situation, welcome input from all.

Rina asked the Group whether we are on the right track in terms of the suggested policies and direction. She noted that a lot of work has been undertaken by HBRC and the TLA's. The Stormwater Working Group and provided valuable input in terms of the issues (noted in the pre-circulated paper) and these provide a sound platform for the rule development.

A member queried the development of the Rules. *Rina confirmed these had been developed by the councils (collective).*

A member wanted to ensure that within recommendation 2 there was scope that this was all inclusive of the policies for the aquifer

It was noted that the Ngahiwi had been elected to the Joint Drinking Water Working Group

A member noted that it would be useful for the JDWG to understand the flow of information to and from TANK

Mary-Anne noted a need to revisit the timing with the TLA's to deliver an appropriate package to the TLA Councillors.

- First, TANK members to provide feedback on Rina's proposal on Stormwater and urban water and identify if anything is missing
- Then, HBRC report back on further versions to TANK

- Once agreed, this will then be circulated with the TLA Councillors so they can understand the TANK work which has been undertaken.

Decision: All agreed with the proposed steps regarding the stormwater/urban water socialisation process with the TLA Councillors as Mary-Anne proposed above.

The Group broke for lunch, Jerf blessed the food.

5. Minutes – Ceri Edmonds

Ceri explained to the Group that there was a highlighted section in meeting 33 meeting record and a revised ‘addendum’ page had been circulated to members at the beginning of the meeting. The red text was now the replacement text for these sections which had been confirmed after the meeting record was circulated via email.

A member noted that meeting record for meetings 33, 34 and 35 had been approved at meeting 36 and that the meeting record (36) should be amended accordingly.

Action: Final version of Meeting 33 record would be re-circulated to the Group via email with the amended Meeting 36 record. These would also be added to the portal and website.

6. Water Augmentation, Lowland Stream Augmentation – Monique Benson

Monique explained that the Water Augmentation Working Group have been working on Recommendations to present to the Group. The recommendations of the WAG were summarised and presented to the Group as below:

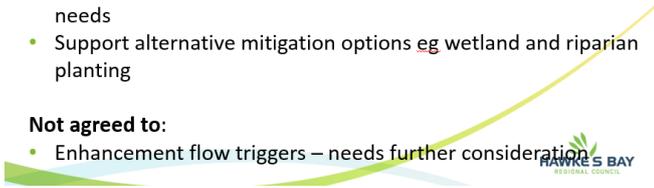
**Water Augmentation Working Group
recommendations – lowland streams**

Based on initial desktop assessments the WAWG **mostly supports:**

- Further investigation – full feasibility
- Provision allowed in Regional Plan Change
- Cost distribution - develop fair & equitable methodology
- Costs to be used as a guide for other mitigations (but not limited to)
- Establish consultation committee - feasibility & implementation
- Flexibility to recognise different stream characteristics and needs
- Support alternative mitigation options eg wetland and riparian planting

Not agreed to:

- Enhancement flow triggers – needs further consideration



The WAG agreed that cost distribution for an augmentation scheme had to be a fair and equitable methodology in terms of distributing the cost, but how that is broached still needs to be worked through. Questions were raised around municipal takes whether it was included or not, more discussion will be done on that. The WAG determined that establishing a committee would be very important with regards to community input for a feasibility phase and also at implementation phase. Monique highlighted that there had been disagreement within the WAG around the enhancement flow triggers and further consideration was required in this respect.

Monique presented a recommendation on the Ngaruroro Flow Enhancement, noting this had also been discussed and developed by the WAG.

Water Augmentation Working Group recommendations – Ngaruroro Flow Enhancement

Recommend further investigation of an enhancement scheme

- From the Te Tua dam
- Mitigate the effects of existing groundwater abstraction
- In conjunction with other mitigation measures.
- Provision of feasibility within the regional plan

Partial vote to date

Monique noted that the WAG had not discussed dams in general, to date they have only considered the Te Tua dam as an option, largely due to it being an existing dam.

Grant confirmed that the storage of Te Tua (existing) is 500,000m³ and it could be expanded to 5,000,000m³. Initial modelling has been undertaken on the ability of that dam to refill on an annual basis taking water from high flows and the primary purpose of that dam would be to offset the groundwater augmentation impacts by allowing Zone 2, 3 and 4 groundwater takes to continue on the basis that the effects on the river have been offset.

The group looked at the option of using the Te Tua dam to mitigate the effects of existing ground water abstraction in conjunction with other mitigation. One of the recommendations is to provide provision within the regional plan to follow through with the feasibility study.

Questions & Answers

When the process started there was consideration of other options, this seems to be narrowing things down by focusing on the Te Tua

Mary-Anne – We are looking at the mitigation of the stream depletion effects and will have more information at the next meeting around high flow allocation and storage. As part of this feasibility study going into the future, we could include the need to look at other sites if the Group agree.

Would like to see reference to other sites

Jeff noted that in the report (pre-circulated) it is referred to as a hypothetical storage site

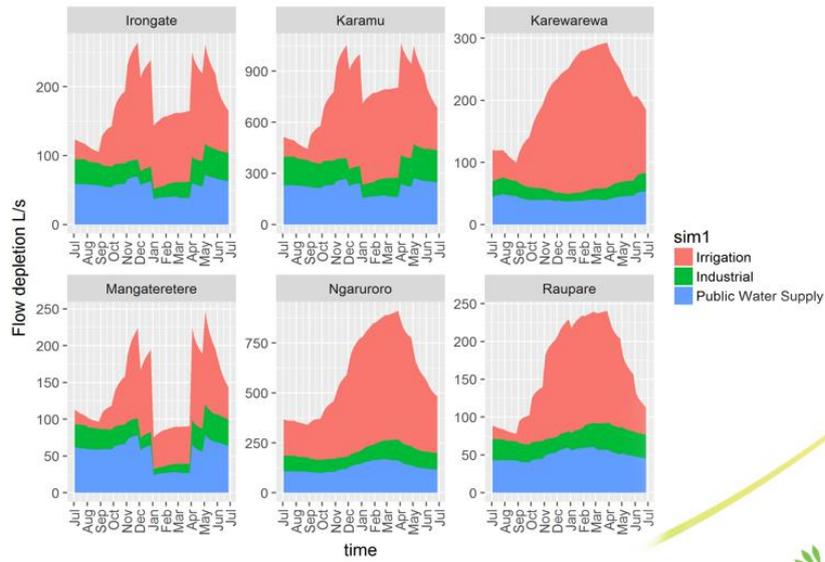
A member noted that the WAG have considered potential wetlands for storage

7. Stream Flow Augmentation, Allocating Capital & Operating costs - Grant Pechey

Grant presented on the allocation methodology, noting that 1471 groundwater consents had been evaluated.

Within the presentation the Model Calibration was shown to the TANK Group. This had been presented to the WAG who raised concerns that the cumulative effects were being understated.

Model Calibration using GW Model Results



Grant noted that Pawel had run a groundwater model (2013) and generated pumping impacts and key locations for each consent. This runs for a 30 year period. The data was used to generate a set of cost allocations for all the consents affected by the regime. The calculation looked at the pumping regime over three sectors; irrigation, potable and industrial. Each category was tested by running the model without any pumping and activating those categories and as a result of doing that, it was able to generate each site the data presented showing the respective pumping impacts for the year 2013. Grant highlighted that the differences between the groundwater model and the cost allocation shows very little differentiation. The allocation model allocates cost per site. Irrigation is picking up the majority of the cost on the Ngaruroro. Grant noted that using averages is not a good indicator especially for potable as there are a few high end users which distorts the figures.

Questions & Answers

The model doesn't help reward good behaviour if you start with consented volume using less.

Grant suggested that if you have an allocation set too high the consent holder should approach the Council to reduce the allocation and pay less.

The member replied that this doesn't work for a collective allocation. He queried whether this means you can buy or reallocate it back?

Grant confirmed that we have not gone into this level of detail yet

No problem with a cost per m3. We have telemetry which is instantaneous take, why are we not talking about actual use and not consented use. If there are water bans you can't use your take but still pay your mitigation charge despite your allocation.

Grant - This cost allocation only applies to groundwater takes in zone 2-4, not zone 1 surface water takes.

A member questioned whether this includes household bores. Noting that in Awatoto there are approximately 12 new developments taking permitted consent of about 20m³ each

Grant confirmed that these are only approximately 2-3% so a very small percentage

We need to think about augmenting the lowland stream separately from augmenting the Ngaruroro River, not as a package. If you look at the lowland streams, the proposal is to spend ½ million at approx. \$400 per consent. This is straightforward and easy to sell to users/constituents. Ngaruroro is more uncertain with annual charges and is more difficult to sell this to the public (pumping clean fresh water into the river) with high capital costs. Showing water that was being modelled for one use now saying it's acceptable for three. I can't support that.

Grant - The capital costs associated with building that dam looks high but it was a very generic high level cost analysis and not specific to the proposed Te Tua storage facility which may or may not be a lot cheaper for a variety of reasons. The Te

Tua storage facility has a multi-benefit besides the obvious augmentation and pumping impacts at Fernhill. It could also help mitigate the effects on stream depleters that are in the new zone 2 category.

Concern of the environmental issues. Doubt there will be any significant benefit with those costings if it would be justified for the lowland streams

Thomas (Wilding) has demonstrated that there are significant benefits to the stream by introducing a small amount of water. Not sure that share the confidence in science or the information

Robyn elaborated there is an issue with the rivers being split – using separate mechanisms

Mary-Anne - We have treated them separately, we've looked at what are the kinds of things we can do to mitigate the adverse stream depletion of those groundwater takes. The paper explains the cost and benefits of each of those (these are split within the recommendations). The question is do we progress with the proposals? Mary-Anne confirmed the intention (no.3 in the recommendation table) is that this should be lowland streams not Ngaruroro.

This is asking people to subsidise for other use e.g. water bottling. Water storage and augmentation is focused on mitigation uses. There is no tangata whenua alignment and it's not in line with the values where households have to pay for water. It will disproportionately affect Maori communities.

We recognise this is an issue and carved out this proportion for human health.

Mary-Anne noted that this is on Page 12 (iii) of the paper which was pre-circulated.

Grant presented an additional slide 'Possible Exemptions from Scheme'

It was noted that the WAG has only just developed this and estimated requirements. More refinement around the litres per person or households was required. The recommendations allows for public input into the design and funding the scheme requires.

There was discussion around the exception of allowing for human health. Concerns were raised by Ivan around the municipal takes.

Grant noted that the potable supply, called the essential category on waste water management suggests water use and dwellings for washing, kitchen use would range from 120 l/p/d potentially up to 200 l/s.

- 120l/p/d equates to 31% of the combined Hastings/Napier
- 220 l/s/d equates to 52% of the estimated daily take.

A concern was raised about the draw down effect and the impact on groundwater and on drinking water
Jeff confirmed this work hasn't been done.

There was discussion around the impact of the new bores (pressure etc.).

Jeff explained to the Group that the bores are similar to irrigation bores. Assessment of the effects was to estimate pumping costs (in this study). The location of bores has not been determined yet and would be subject to an AEE so impact would form part of that analysis.

It was noted that in the case of Twyford there is no effect. At the Raupare Stream, they have put down a well costing \$117k, adding water to the river at no loss or cost to anyone else.

A member questioned the Industrial Potable definition, suggesting this required further clarification.

Grant confirmed he had used the categories that are in the HBRC database, they classify consents into industrial, potable or irrigation. The municipal take fall within the potable category and represents 75% of the allocated volume.

It was noted that the Group need to develop and agree to the broad principles and enable Council staff to look at the finer details.

A group member suggested that the Group needs to put the Awa first, and sustainable use as a part of the values. Groundwater quality, needs more focus with mitigation (agree with condition)

Would like to see the cost worked out per day for pumping (for 10 days of augmentation) is it cost effective? See augmentation as a band aid until a more permanent solution is found. Could fix the issue with good riparian planting and wetlands.

A member explained that there is existing infrastructure, existing bores and pumps in some cases several pumps. This is more labour intensive but cost effective

Mary-Anne questioned the Group in respect of the exemption of water for human health - Do the costs get borne by other users or the environment? There was a small discussion around this and Mary-Anne concluded she would provide some options on what this would look like

8. Whiteboard session - Recommendations 3, 4, 5 (from discussion paper).

Post note: These have been recorded and have been fed back on a separate form, including staff feedback.

Afternoon Tea

9. Whiteboard session - Recommendations 6 and 7 (from discussion paper)

Post note: These have been recorded and have been fed back on a separate form, including staff feedback.

10. Plan Drafting

Mary-Anne presented (paper copy) of the draft Plan Change. She asked the Group how they would like to deal with the various iterations of the draft and how they would like to provide feedback.

After discussion it was agreed by the members that they would like to be presented with the iterations (drip-fed). An executive summary will be inserted as a front cover and as and when changes are made these will be highlighted within the executive summary. There would also be a versions table added so members could indicate when they have made comment (a running record of feedback provided).

Agreement: Draft policy would be drip-fed through to the Group, with and executive summary of amendments/changes proposed and a table for members to complete to record when feedback had been provided.

It was agreed that an electronic version of the draft (paper copy circulated at the meeting) would be circulated to the Group following the meeting, incorporating the executive summary.

Action: Circulate Draft Plan to members, with executive summary following meeting 37.

Summary of Action Points

ID	Action item
37.1	Recommendation table to be updated including recommendation 2.1, and circulated post-meeting. Members to email feedback to Ceri.
37.2	Circulate electronic copies of the HDC and NCC presentations to the Group
37.3	Final version of Meeting 33 record would be re-circulated to the Group via email with the amended Meeting 36 record. These would also be added to the portal and website.
37.4	Circulate Draft Plan to members, with executive summary following meeting 37.

The meeting closed at 4.30pm