TANK Collaborative Stakeholder Group
Meeting Thirty-Eight Record

Workshop start time: 8:30am start

Location: Corner of Carrick and Nichol Road in Twyford.

Meeting Start time: 9:30am

Location: Ellwood Function Centre, 12 Otene Road, Hastings

- 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

Morning Workshop

A workshop was held in the morning (Carrick Rd/Nichol Road, Twyford) led by a TANK Group member, to demonstrate the Raupare Stream Flow Enhancement scheme which is part of the water sharing initiative coordinated by the Tywford Global Consent holders. Approximately 20 people (TANK members, HBRC staff, Councillors) attended this meeting and there was a lot of useful discussion around the environmental benefits of the scheme, the management of the global consent and the ability to 'roll out' similar schemes elsewhere within the TANK catchments.

The meeting began at Ellwood at 9.45am.

Meeting Objectives

1. Agree lowland stream depletion management
    - Stream flow enhancement
    - Riparian land/wetland management
    - Allocation limit and re-allocation of water
2. Agree on high flow allocation management framework and policy direction
3. Receive initial economic modelling results
4. Reduce the number of management scenarios for economic modelling
5. Receive update from Mana Whenua working group

AGENDA ITEMS

1. Welcome and karakia

Robyn Wynne-Lewis greeted those who had not attended the workshop prior to the meeting.

2. Apologies, Housekeeping, Agenda, Meeting Objectives

- 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.

It was noted by a members that it was often difficult to print off all of the reports in advance of the meeting. It was agreed that copies of the reports would be brought to the meeting for each member unless they expressly noted that they were happy to bring their own copies. Members were happy to read the documents in advance of the meeting electronically.

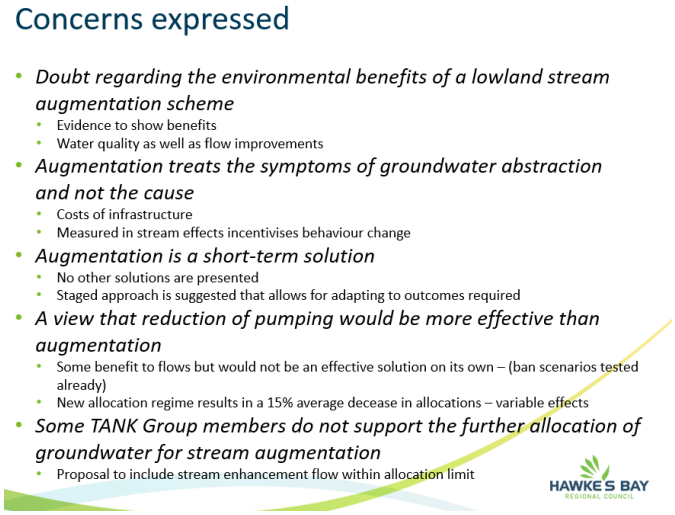
Action: HBRC staff to provide hard copies of the pre-circulated documents for each TANK member

3. Notices

None

4. Lowland Stream Flow Enhancement Scheme – Jeff Smith

Dr Jeff Smith gave a verbal presentation to the pre-circulated paper – Discussion document Part 1 Lowland Stream Flow Enhancement Scheme. Jeff explained that the paper had been developed to address the concerns which had been raised at meetings (particularly meeting 37). These concerns were identified as follows:



Discussion followed.

Questions & Answers

A member questioned the cause of the low levels in the Raupare (as an example).

Jeff – explained that this could be due to a number of factors such as irrigation, natural climate variations etc. In Twyford they are treating both the cause and the symptom.

Does this result in a nett overall increase in water use?

Jeff – The stream flow enhancement would be within the existing use

What are the effects of long term augmentation on Karamu and Clive?

Jeff – the rivers would always be flowing above trigger flows. Scheme keeps it at a minimum flow, off-setting stream depletion

A member asked whether oxygenation was a benefit of the scheme?

Jeff – Noted that groundwater is naturally lower in oxygen but augmentation water would be required to have 80% oxygen before it enters the river/stream

A member highlighted that they will see increased flow in other streams. Over two years they did 30 days of flow enhancement (so it is not running constantly) in other years this would be in the order of 2 or 3 days.

A group member showed concern with the enhancement being used to address today's minimum flows, rather than future minimum flows, and that it didn't take into account climate change.
Jeff commented that the climate change models are not that accurate at present, it is not that climate change is being ignored by this plan change, but allows for future analysis and flexibility to respond to this. He noted that this system had been used elsewhere in the country (not just Twyford) with success.

A member thought the concept was great, but didn't want the Group to be overly optimistic in respect of the environmental benefits. We need to be conservative in our thinking, be honest about what can be achieved. Utilise this as one of the tools in the toolbox and thought that the Twyford Group should be given additional support to assist in their monitoring.

Jeff agreed that augmentation is part of the solution, not a silver bullet. Jeff showed table 1 and explained the plan drafting is adaptive

A member commented that the augmentation scheme is to mitigate the effects of abstraction – if it works well then this could be scaled up to provide additional environmental benefits.

A member highlighted to the Group that augmentation and Riparian planting goes hand in hand with increased efficiency.
Councillor Belford confirmed that there has been $30m allocated in the LTP for Riparian planting in the region. A

A Tank member was of the opinion that other benefits need to be considered at the same time as the mitigating effects of augmentation, he didn't feel that there was enough consensus in the drafting of the objectives. He confirmed that he was not opposed to flow augmentation but wanted to see innovation in other areas, augmentation seems exploratory, not 100% confidence that it works. He re-iterated concerns that the existing abstractions were having adverse effects on lowland stream flows and groundwater availability in some areas and that this was not clearly evident in the proposal. Ngaio expressed his need to take a message back to his community that abstraction reductions are on the table as a means to avoid adverse effects.
The member was questioned by Councillor Belford and Jeff whether he was looking at "avoiding" (rather than mitigating)?
Post note: During the breakout session Dr Jeff Smith proposed to the group that there is a mechanism being proposed that can incentivise water use efficiency (i.e. the Twyford Group have shown that the cost of augmentation drives efficient water use and reduction of actual use). To make this work, water user community groups are required. This would create a sense of responsibility for local waterways (as the TIG have for Raupare). With this mechanism in the plan, there is opportunity for the TANK Group to consider an objective to reduce allocation/actual use over time.
The question was put to the member – "what magnitude of reduction would be acceptable"?. The member responded that he wasn't sure and would need to discuss with his community.

Mary-Anne noted that it was difficult to have rules around riparian planting. We are taking a staged approach as we dont yet know enough about the combined impacts of the riparian work or the stream enhancement, so need to ensure there is flexibility within the Plan.

A group member agreed with another member. She see the importance of the catchment groups and would like to see less water being used. Would like to see less water taken out of the ground. Riparian planting a possibility and very happy to set up a catchment group in Dartmoor Valley

It was queried whether there would be the same incentives if we enable similar schemes to Twyford?
Jerf suggested this should be done through the catchment group (rather than by HBRC), there has to be ramifications on which lowland streams you are most affecting. If you don't play by the rules you don't irrigate.

It was suggested it would be useful to have a boundary map of the plains identifying which lowland stream you would be linked to/affecting to enable a sense of ownership for consent holders

A member questioned whether we actually need global consents to make augmentation work?
Mary-Anne suggested that it might not be a crisis, but rather a management imperative (working with farmer group) which gets water users to act collectively. She mentioned using the strawman approach, this was started in relation to nutrient management and is closely linked to managing water

A member queried how this would be done practically, how it would be calculated?
Mary-Anne – it's about providing incentives, opportunity, motivation and flexibility to meet outcomes which are being sought. Applies to Industry groups in the same way as the farmers group.

A member asked what kind of incentives the council could be offering.
Mary-Anne explained that this would be in the way people are working. For instance – they could work alone off a farm plan, or work collectively sharing knowledge.
A member spoke about the Twyford incentives and the challenge by not having water at all, virtual global consent. Water is taken on a pro rata basis.

A member expressed further concern that it is not just about water quantity but also water quality, want to incentivise good behaviour.
It is necessary to have the right framework, augmentation and riparian planting, objectives framed in the plan becomes the objective. Enable groups to get together. If you aren't part of a scheme and hit low flow then you're out of business. Trigger levels are key. It depends on how we frame the control structure.

Councillor Belford – the core issue is we are over-using water. What is going to be in the plan that speaks to this? Do we have the confidence that the band aid will work?
Mary-Anne agreed that we all appreciate that there is an issue with the lowland streams. Once we have the information regarding consents and the actual use we will have an opportunity to revisit this. She questioned the Group what they though the alternative solutions were? What is practical and implementable?

A member felt that efforts and measures to avoid adverse effects were not considered in enough detail in response to tāngata whenua concerns. He considered it represented a healthy apprehension/scepticism around the science. Don't have the answers or the solutions – just apprehensive. Also feel that there is a mismatch in the objectives (more water in aquifer). Also concerned with the Pipfruit industry but in additional hectares of apples within the catchment and the increase in water required for this.
A member confirmed that the location where the new PipFruit is proposed is currently in onions so this would result in significantly less water for irrigation, so would be an environmental benefit.

It was highlighted that this recommendation is fundamental to the plan so there needs to be close enough to consensus from the Group to move forward.

The Group broke out for morning tea and discussions with regards to the recommendation.

Whiteboard session – Recommendation 1
The group discussed Proposal 1 (page 8 of the pre-circulated discussion paper). The comments were recorded on the whiteboard and would be presented back to the Group prior to the following TANK meeting on the 19th April (as had been done previously).

In addition to the proposal the following comments/concerns were made in general discussion:

- What reduction would satisfy the group?
- "Abstraction" not "Allocation"
- Ability to make changes to the plan once we have the science
- Mismatch between what we are discussion and the draft objectives
- Amount of water in aquifer is not sufficient to meet all values
- More specificity – objective to achieve a reduction in water use (progress needs to be more specific)

5. High Flow Allocation – Jeff Smith

The supporting documentation to this part of the meeting was pre-circulated in the Discussion Document – Part 2 High Flow Allocation Regime; Policy and Rules.

Jeff explained that the FRE3 static is a measure of a river's ability to maintain ecological (benthic) values by flushing periphyton and turn cobbles. FRE3 is the number of times per year the flow exceeds three times the median flow. The FRE3 statistic incorporates both a frequency and intensity component and its application in New Zealand Rivers has shown close correlation with instream biological variables, such as periphyton and macroinvertebrate community structure. The FRE3 method has been used here as the ecological basis for the broad assessment of biological consequences of all eight high flow scenarios. Tonkin + Taylor (2010) ascertained that 3,500 ha of additional irrigation may be available in Heretaunga Plains/Ngaruroro Catchment which may be met by 17.5 Mm3 of storage.

Questions & Answers

Disagree with the report 3,500 is inaccurate
Jeff – It may be inaccurate, but it's the best available information. It enables a very general assessment of the potential demand for water.

What is the impact of high-flow allocation for groundwater recharge?
Jeff confirmed that this would be negligible
Jerf noted that water will only be stored if required for other uses (Plan change – status quo)
Tom - It's about future water needs
Jeff - Allocating a harvesting flow does not mean storage and land use change is subsequently authorised. It provides an allocation (based on in-stream effects) that would be available if the effects of proposed storage and/or land use change are acceptable during a consenting process. If the plan doesn't provide for future high flow abstraction, it would be much more difficult for a storage scheme to be realised – and there is much less certainty for the wider community about what would be approved . This is regardless of the purpose for a storage scheme … e.g. storage for environmental benefit

Concerned with the high-flow, there is no decision on low flow being raised, augment with storage for high-flow

A member noted that when rivers are in flood, the quality of the water going into storage isn't good, it's detrimental. From a system point of view, there is no harm in taking the water. What are the controls?
Storage to mimic nature – needs further discussion
Jeff noted that the modelling assumed harvesting would occur when Ngaruroro flow is between 20 m^3/s and 60 m^3/s, based on Mike Glazebrook's advice that flows greater than 60 m^3/s would be unsuitable for storage due to high sediment load

Councillor Belford - How do you manage demand, how do you see this playing out operationally
Mary-Anne – this would be on a first come first served approach (look at the benefits and adverse effects for augmentation) on a case by case basisi as the applications are made.

The allocation scenarios (Allocation limit of 6m^3/sec and 8m^3/sec) on page 17 of the Discussion Document were discussed.

6. Flow Management Scenarios for Ngaruroro and Tutaekuri – Thomas Wilding

The supporting documentation to this part of the meeting was pre-circulated in the Discussion Document – Part 3 Flow Management Scenarios for the Ngaruroro and Tutaekuri.

We do not have the ability to dictate the minimum flow in the river, because flows continue to recede after abstraction ceases and there is not a large reservoir releasing a minimum flow. Hence, it is more appropriate to describe the flow at which water use restrictions come into force as a "trigger flow", rather than a "minimum flow". River flows will drop below a given trigger in the absence of water use. The effect of water use is to increase how frequently and for how long the flow drops below a given trigger.

Questions & Answers
Is the impact of different security of supply on different crops a linear relationship?
Brian Bell (Nimmo Bell) - No, it's not linear
Mary-Anne noted that this would be different for different crops – for some crops, as water availability declines it might result in an abrupt decrease in quality/quantity of the crop to un-marketable level.

Brian – Explained about the "tipping point" in relation to the security of supply, where land use changes and management costs are adjusted.
Thomas – the environmental benefits of triggers are smaller; fish respond to the realised flow in the river, rather than the trigger value specified in a regional plan.

A member noted that the benefits worth considering, where is the best environmental benefit?

Brian asked the Group what was the purpose of analysing 4000 l/s, when it's already catastrophic?
We need improvement in environment habitat
A member noted that artisans are not represented in these analysis, only big players

Brian explained that NimmoBell have been contracted to model 2 then 1 later.

Robyn asked the Group with 2 scenarios they would like to see modelled for the Tutaekuri
Leander confirmed that they have already modelled 4000l/s for the Tutaekuri for Economic Impact

Brian talked to the Group about the timing to achieve decision 3b would be applied to both scenarios.

A show of hands was taken regarding the habitat protection

- Water use restrictions triggered by 80 – 90% habitat protection - 7 in favour
- 70 – 75% habitat protection - 14 in favour

There was concern expressed regarding taking a simple majority (Jerf/Councillor Belford)
Two group members expressed a concern that if you take 4000 off the table, it won't be looked at again

A member questioned the costs associated with setting up analysis, 2 extras scenarios would be analysed later will it cost more?
Brian explained that if it were similar, the cost would be small. If it was something new, it would be higher

Focusing on interventions that'll have impacts on low flows will have some benefit

After further debate about what scenario to do further economic modelling, there was agreement that we start with assessing impacts at the 2400 and 70-75% habitat protection levels to help better refine understanding about what flows would result in land use change. This did not mean the final decision about trigger flows was made and the need for further assessment of the higher trigger flow might still be required.

(Member) - Jacinda Ardern instructed Treasury to deliver a well being metrics and framework by January 2019. If we don't do more towards this and we deliver the Plan using neoclassical metrics we will look stale and it won't be applicable. Many communities are being excluded from the opportunity for wellbeing through practices which support a mainstream view of economic success and farming practice. Water supports everything including growing practices.

7. Economic Analysis – Part 1a Leander Archer

AgFirst has completed an Economic Analysis to Farm Gate of Irrigated horticulture in the TANK catchment, this was pre-circulated to TANK members (Modelling Water Restrictions and Nutrient Losses fort Horticulture in the TANK Catchment – An Economic Analysis). The analysis compares the base case, which represents what are current irrigations on horticulture, to 3 future options.

Table 3- Overview of Option, Scenario modelled, and the definition of each

Option	Scenario	Scenario Detail
Base Case 44% (Ngaruroro) and 60% (Tutaekuri) Habitat Protection	1- No Ban	35mm/week or 14mm for grapes. (Basic SPASMO default included in all scenarios). Represents 'current' as best as possible. No annual allocation restriction Represents Tutaekuri 2,000 l/s (base)
	2- Ngaruroro 2,400 l/s	35mm/week or 14mm for grapes Shuts off irrigation at 2,400 l/s at Fernhill No annual allocation restriction
Future A 80 to 90% Habitat Protection	3- Ngaruroro 4,000 l/s	35mm/week or 14mm for grapes Shuts off irrigation at 4,000 l/s at Fernhill Restricted annually to 4 in 5 year allocations Represents Tutaekuri 3,300 l/s.
Future B 70 to 75% Habitat Protection	4- Tutaekuri 2,500 l/s	35mm/week or 14mm for grapes Shuts off irrigation at 2,500 l/s on the Tutaekuri Restricted annually to 4 in 5 year allocations
	5- Ngaruroro 3,600 l/s	35mm/week or 14mm for grapes Shuts off irrigation at 3,600 l/s at Fernhill Restricted annually to 4 in 5 year allocations
Future C Annual allocation Reductions	6- Groundwater Zone 2-4 2013 allocation	35mm/week or 14mm for grapes No bans Restricted annually to 2013 year allocations
	7- Groundwater Zone 2-4 "9 in 10 year" allocation	35mm/week or 14mm for grapes No bans Restricted annually to "9 in 10 year" allocations

The future options are:

A- Increase the Habitat Protection to 80- 90% on the Ngaruroro and Tutaekuri Rivers with an annual allocation for all users with a reliability of 9 years in 10

B- Increase the Habitat Protection to 70- 75% on the Ngaruroro and Tutaekuri Rivers with an annual allocation for all users with a reliability of 9 years in 10

C- The difference between an annual allocation that is enough for the 2013 climate year (roughly a 1 in 20 year drought) and a 9 in 10 year reliability (irrigators will run out of water in a 1 in 10 year drought).

Questions & Answers

- There needs to be more Zone 1 detail
- Impact on Zone 1 and use of a new crop model and 9/10
- Modelling was very precise but wasn't a real life water management example.
- Not just about GDP its about distribution
- What is trigger point beyond 2400 for major land use change
- A flow trigger of 3600 would result in major land use change
- Model to 3600 – 70/75
- To check what we did with takes that are buffered from the effects of an abstraction ban by reservoir storage (e.g. Te Tua and Washpool reservoirs)

Decision: The group agreed to the base case + 70-75% habitat + Groundwater and agreed to do 80-90% subsequently if required (as proposed by a member) To be modelled.

8. Summary of Action Points

ID	Action item
38.1	HBRC staff to provide hard copies of the pre-circulated documents for each TANK member