

Meeting Thirty-Five Record

When: Wednesday 22 November 2017, 9:30am – 4:00pm

Where: Te Taiwhenua o Heretaunga, Orchard 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

Meeting Objectives

1. Agree drafting instructions and recommendations for wetland management
2. Agree climate change policy
3. Agree recommendations for managing staged reductions
4. Understand economic modelling approach
5. Agree TANK monitoring plan and policy recommendations

AGENDA ITEMS

1. Welcome and karakia

Robyn Wynne-Lewis invited Drew Broadley to open the meeting with a karakia.

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.
- Open floor for TANK members for notices and announcements.

3. Item # 1: Notices

Peter Kay would like to know who will be attending the field day in Kereru next week. We will do a head count at the end of the day.

Clarification about the nature of science advice was provided. At the last meeting, a scientist was asked for a personal opinion, and Robyn had received feedback that this put the scientists in an uncomfortable position. She apologised, and requested that in future, people refrain from asking scientists for their personal opinion, and instead ask for the information they need to help them make their own decisions.

4. Item # 2 – Meeting Record 33 and 34 and Action points

The meeting records from Meeting 33 and Meeting 34 are not yet complete and will hopefully be done before Christmas. It was noted that the meeting records were used to inform a wider network. The meeting was reminded that the Think TANK was available for circulating also. It was asked that the meeting record not be circulated until signed off and agreed as accurate. Not everyone agreed, but it was re-iterated that unconfirmed and potentially incorrect minutes should not be circulated. This protocol was to be discussed with those in disagreement during a break.

Action: To agree whether minutes could/could not be circulated in draft to respective organisational bodies.

5. Item #3 – Overview of the day

Mary-Anne spoke to the objectives for today. A number of topics that staff presented require agreement on the drafting instructions from the Group.

- Wetlands and Lakes Management – Report from the Wetland Working Group. (Gavin Ide)
 - Objective: Agree drafting instructions and recommendations for wetland management
- Climate Change – Policy recommendations (Ceri Edmonds).
 - Objective: Agree drafting instructions for climate change
- New modelling results around staged reduction and the effectiveness of that.
 - Objective: Agree recommendations for managing staged reductions
- Water Allocation (Malcolm Miller)
 - Objective: Seek direction from the Group in relation to rules around water allocation.
- Economic modelling presentation – an update on economic modelling (Leander Archer from Agfirst)
 - Objective: Understand economic modelling approach
- Monitoring Plan (Stephen Swabey).
Review of HBRC network and gap analysis for TANK catchments
Community scale monitoring options
 - Objective: Agree TANK monitoring plan and policy recommendations

6. Item # 4 – TANK Lakes and Wetland Working Group Recommendations

Gavin Ide gave his presentation, acknowledging the group members responsible for the report.

LWWG Recommendation - Option 2: Adopt approach recommended in LWWG's report (i.e. Recommendations A1-C3).

Note the report was pre-circulated to the TANK Group for consideration.

Questions asked during the presentation:

Can you embellish on why you don't want to reaffirm the Interim Agreement #31, as outlined in A2 of the recommendations.

Gavin: The earlier interim agreement talked about identifying wetlands and categorising them around their ecological significance. That categorisation classification is underway in terms of the broader regional biodiversity strategy actions and is a work in progress. Not much appetite or need for the TANK effort to duplicate that or run ahead of it.

That is a strategy not the management plan per se, wouldn't you want to give effect to the strategy.

HBRC have a regional biodiversity strategy. The Biodiversity Guardians have also been established, they will follow through with implementing that regional biodiversity strategy.

That action wouldn't be sat within the plan (RRMP).

The regional biodiversity strategy does not specify each and every individual action that is planned. The Guardians and the Trust will be the ones that spearhead the implementation of that regional biodiversity strategy. Some of those actions may require some sort of regional plan response, some might require a District Plan response, others an asset management response, those are all sorts of future pieces of work. But the risk is that we put the TANK cart before the horse, in that sense trying to anticipate some of that.

Gavin continued with his presentation. Explaining that this was a package of things, to try and dismantle one or revisit one by itself is a little bit risky. He continued with recommendations B1 and B2.

Definition of wetland is a specific issue for Poukawa. This water body is referred to as both lake and wetland and tangata whenua refer to it as a waiū water of sustenance for the whanau down in Poukawa. (The word waiū means breastmilk (to feed and to nourish). Poukawa and Tūtira are known as waiū, to feed and nourish.) Poukawa is not differentiated as wetland and lake. The margins just get bigger and smaller over the seasons. Tangata whenua consider the whole thing together. I think that is the usual context and also Poukawa has a Fisheries Act regulation where no commercial eeling can occur on it. There are only a handful in the country so it is an area of cultural significance.

From the groups perspective I don't think we look at lakes and wetlands to be separate. When we discussed lakes and wetlands we discussed it as one subject. Didn't mean to in any way differentiate between the two as such. What you are saying is what we were actually doing.

It is more the RMA, sometimes lawyers that differentiate.

And added to the mix it is also the names of these places. We all know what we are talking about wetlands, lakes particularly in the report, I have just read through some of the observations about where those things actually fit in documents e.g. Mana Ahuriri made reference to wāhi taonga in quite a few sections in there, so it is up there.

We weren't trying to define the top ten, but highlight that there are many out there and the ability for them to be natural wetlands to be restored so they could be actually increased because they are of such great value. Not to compel people to do it but gives the option and ability for people to be able to pick up and develop or redevelop areas which were natural and should be restored.

Gavin: The rules should be drafted in the TANK Plan change to specifically refer to 'natural wetlands' not those that are artificially created for one reason or another. It might be an artificial puddle, or created for stormwater detention purposes. The intention is not to have that artificially created puddle be subject to the same rules and restrictions as a naturally occurring wetland. Why? Primarily because there might be some unintended consequences or unintended behaviours that dis-incentivise establishment or modification, enhancement of some of these artificial water bodies, because the person might fear that the same rules and restrictions that apply to natural wetlands will eventually apply to these artificially created spaces. Such as fencing, stock exclusion type rules and regulations.

Robyn: So you don't want to fence your puddle that you created for storm water because it is under the same rules as a natural wetland. Gavin: In essence yes.

In C3 you refer to in a similar fashion to streams, drains and channels, this is not clear. There may have been a wetland here at some point but at some stage it has been channelised. Was there a consensus, or was it thought about whether that would fall into the definition of a natural wetland.

Gavin: The question is - is an artificially created drain where there used to be a wetland, a wetland. I was under the impression from the working group that where a wetland used to be is nice to know but not determinative of current day rules and regulations.

The answer to that question is going to be when you think about stream depletion is going to be really critical when it comes to rules, if you have rules that link drains to any change in stream depletion. You are creating a monster.

If a wetland that has been drained and that is without the knowledge of anyone, say five to ten years ago, then it is drawn to the attention of the Regional Council it may well be that it is considered a wetland. It would be good to get more guidance from the group on that. It is important to at least have a clear view about what the intention is before the drafters go off and do something.

The bigger issue around the drains in the Heretaunga Plains is around streams not wetlands, because the drains have captured streams and that is a different aspect, but there are some drains that have been neglected over years and have become natural wetlands, but we wouldn't consider them natural wetlands, is basically what we were getting at.

Is it realistic to take this question back to the LWWG. *Nathan: Yes it is good to have the little bit of discussion. Gavin: My thought of historical of wetlands, was decades and decades back. But there may be more recent history. Mary-Anne: It might be something that we can't answer because you would have to look at the facts of the case that if it came to the attention of the Council it is a compliance issue in relation to the rules that were in place at the time it was done. So you would have to do investigation and work out what rules applied and whether or not there was an illegal drainage, so I don't think we can write rules to reflect that aspect of it.*

Action: LWWG to work through a number of obvious examples.

An example was discussed - Land was drained and left to revert, turned into a duck pond, and over time gradually reverted to a wetland. Is this going to be defined as a wetland? We shouldn't concentrate on what was a wetland but try to encourage enhancement of these areas that could possibly be future possible wetlands. Recognise that wetlands have a lifespan too including where rivers change course. We need to try and encourage the enhancement of wetlands, rather than trying to turn back the clock.

Gavin: There might be still some elements of creating an artificial space that still needs compliance, to comply with the relevant rules in place or get a consent. The Working Group did a bit of a stocktake of the existing provisions within the Regional Resource Management Plan, and particularly the rules. Rules are applicable to wetlands across the whole of HB.

The working group considered 'What needs changing if anything as far as wetlands within the TANK area'. The conclusion is that what is in there already is pretty good, fit for purpose with some specific gaps that could be tweaked or smartened up. This includes the taking of water from a wetland, which might need to be elevated up to one step away from prohibited. So the hurdle is that much higher.

Those of us on the Stormwater Working Group considered s/w retention and wetlands creation. The need for connection between the two working groups was noted.

Gavin: Maybe it is just a matter of some of the council staff like Rina who convenes the Stormwater Working Group liaising with me and triangulating with Mary-Anne who is doing some of the drafting. To make sure all dots are connected, and then if they are not then maybe throw the question back out to the relevant Working Group from there.

Gavin: In farm management planning need to be mindful of former wetlands in the environment including current wetlands and historical wetlands in the landscape. Future farm management needs to be aware of the prospect and the potential for enhanced or artificially created wetlands in the landscape. I gather that there are some discussions already on the go through the Farmer Reference Group around how those farm system planning processes and modes of delivering that farm planning system could be brought about, rather than an individual farmer producing their own individual farm plan we were informed that many of the wetlands in the TANK catchment actually span multiple properties. Need to elevate that thinking up to multiple farmers rather than just individuals. There will be some effort or smart thinking required to how the farmer environment plan and the

planning system can be elevated up to accommodate multiple properties and in doing that making sure that wetlands are one of the many factors in that multiple property decision making process.

The current Regional Plan, has a list of about 10 wetlands listed of which 3 or 4 of them are in the TANK area. That has been in the regional plan for many years, a couple of decades or getting close to it. But it is a list that identifies a priority wetlands for allocation of resources for restoration.

Gavin: Priorities for allocation of the regional council's physical work services. There is only so much to go around, once upon a time they saw wisdom in listing 10 or so places.

Do we actually need to review that list, relative to what we are trying to do in the TANK process.

Gavin: My view at this point in time is No, we don't need to, we can let the Biodiversity strategy actions and Guardians and the Trust do their thing which will hopefully circle back around and lead to revisiting the existing policies that you refer to. Rather than us trying to take that on ourselves. All we could do is take on ourselves as far as the TANK catchment area goes. There is a bigger broader question there I think. That needs to be interrogated.

Gavin: The aim is to a position where you are comfortable enough to adopt the Working Groups recommendations or at least adopt most of them and give the team some very clear instructions as to what needs to be amended and importantly why you think those amendments y are worthwhile.

I haven't heard of the Trust or the Guardians, so where can more information be found about what they are going to be doing? Will enable decisions to be made.

Desiree: We are currently working on a website www.hbbiodiversity.org and that will have the information about the Guardians. The strategy was launched in March last year, since then we have set up an implementation planning group and that group met pretty regularly for 14 months to develop an action plan. John Cheyne is on the group. That is being implemented as we speak. There are six priority steps in that and one of them is ecosystem mapping and I think that is what Gavin has been referring to. We are going through this process/exercise where they looked at all the different ecosystems before human settlement and what is left now and then they are prioritising to get a full representation, representative range of ecosystems. When we have that list it will give us a list of ranked ecosystems, there are about 900 and then a process of ground truthing them and then we will load what ecosystems we should invest in protecting and maintaining to give us the best biodiversity gains. That will go a long way to achieving what Gavin? was referring to in terms of what sites are worth keeping and protecting. So the biodiversity work is non-statutory. The work of that ecosystem mapping, the idea is that the Council and other agencies will work together to go through that ranked list of ecosystems and do things on the ground, to protect those ecosystems.

If we said we don't want wetlands anymore what does the biodiversity look like. What would happen to the biodiversity strategy? We are giving a lot of cognisance to the biodiversity strategy. Where does TANK fit?

Mary-Anne: The biodiversity strategy is subject to TANK rules. So the rules in the plan are higher than the biodiversity strategy.

Have the working group gone through all of these provisions at the back of this document? The actual versions in the RPS, present quite specific parameters e.g. 400m for this 5 metres for that. The biodiversity strategy can say whatever it wants with regards to the list of wetlands noted in the RPS, but it cannot amend the list. So if someone felt that there were additional wetlands they have to be identified in the RPS. Was that considered? Have these rules been looked at by the working group in some detail? Are they being ratified as sufficient, without any further amendment or embellishment?

Gavin: The Regional Policy Statement lists 10 or 12 wetlands, as a priority for the Regional Council's work services. IS the question whether the Biodiversity strategy work can change that, or how can that list be changed by some other process or other person?.

Are we electing not to change it (the RPS list of wetlands) in our process here?.

Gavin: The Working Group preference is to say all remaining wetlands within the catchment area are important and the Regional Council should step up to a stronger leadership role for all of them not just the top 20, to protect

them. Regional Council is to prioritise where it deploys its work and physical effort, it might also make available some financial support to non-listed wetlands.

Tom: This one page being recommended for adoption is very general as compared to the last two pages of the document that incorporates by reference all the existing provisions in the RPS. Are we convinced that something within 5 metres of a wetland and other specifications are appropriate. You could look at this page and not have a clue of what actually is going to be required, in terms of protecting wetlands.

Gavin: So in terms of the rules the question is - has the Working Group done a deep dive on the specifics of each of those rules. I can't speak for all of them, but the discussion certainly was at a higher level than that., asking the fundamental question: With the existing plan are there any clear and obvious gaps that the TANK plan change needs to fill.? Pretty much the response was that there are no real clear and obvious gaps. There might be a few tweaks required along the way, and we need to delve into what those tweaks are. The WG has delved into some, but I suspect that the WG has a bit more work to do.

There is one wetland in the catchment, that's Poukawa/Pekapeka, its listed in the RPS, I understand lifting the bar across the board. There could be arguments for greater recognition and attention to that, particularly with the cultural performance in the future.

Gavin: That really goes to the heart of why is that existing list of wetlands in the RPS, it is the list that the Regional Council has highlighted as priorities for works and services, it is not prioritised for water, for protection, or extra rules and regulations, it is just basically highlighting the 10 wetlands that it will focus its efforts on for getting out there with willow clearing and whatever else it might do.

Essentially it is a priority for the money. *Gavin:* Correct, and some of that priority setting for financial reasons is also needing to go through the LTP process, the Annual Plan.

The new policy is saying it is unnecessary to recognise each and every individual wetland instead recognise the value of all existing wetlands. So it is a superior approach.

Robyn: It does seem to need some clarity there, on the one hand we are saying, this document is saying that they are all important, on the other hand there is another document that says well actually these ones are most important in terms of spending the money. It that what you are saying?

Yes but your last phrase in terms of spending the money. It is not as Gavin is saying a priority of their value or values, but it is a priority of we want to know where we are going to spend our money. We can advertise we can bring people's attention, we are spending money in these particular ways which would have more impact than just spending money on wetlands.

Robyn: Can TANK have any impact on that list of (RPS wetland) priorities?

It is a list that has served its purpose, over the years. The Regional Council really don't take too much notice of it now or do the other agencies. Council consider each application and quite rightly so for funding for wetlands on its merits. The list is incomplete, even when it was compiled. It missed out Ahuriri above the coastal zone area. There is a lot of the estuary that is covered by the Regional Plan the bottom of the estuary is covered by the coastal plan, that should have been in there but it was not put in there, that list was based on work that was done by John Adams and Malcolm Smith from DoC in 1998. Question whether that list actually has any relevance today because we are going to be guided in the future by the importance of individual wetlands defined through the biodiversity strategy process. More so than what is in the current plan that has been sitting there for 15 years with information in a report prepared in 1998. Still question what we do with this relative to what we are trying to achieve with TANK. Need advice from the planning people.

Gavin: Besides the TANK Plan Change the Regional Council also has a number of other plan and policy review workstreams on the go or on the horizon. Once of which is the broader review of the Regional Resource Management Plan so that might be the opportunity, it certainly will present the opportunity for any of the existing regional policy statements written to be revisited, refreshed or simply turfed. Because they are out of date or they are not relevant because something else has come in. So again its posing the question to say well should the TANK plan change attempt to tackle this or is there some other better process, other group, other effort, going to do this anyway.

We (LWWG) were faced with a number of choices. Register all so that they were all equal. Or try and take those off the list. We didn't come up with a definite recommendation as such. The other fact too is that there is an encouragement factor we have been talking about, that there are a number of potential wetlands out there. If you start talking about finance well then some of the finance that is all going to go into the existing ones there may not be the finance to do the other ones. It is a bit of a conundrum.

The group broke for discussions as to how they feel about the recommendations in the report and to come back with which they agree with and to discuss the contentious points.

The group reconvened.

Gavin: This group is focussed on creating some sort of plan change for the TANK area, in the not too distant future. As mentioned previously there are also other policy review workstreams that the Regional Council will be undertaking. So potentially this group could frame up some recommendations not only about TANK plan change content but also give some recommendations for what future thoughts or considerations might the Regional Council give to reviewing the RPS provisions. But those other plan provisions will not be changed overnight. That will be something else for another group to turn their minds to. There are already other groups doing some great work around wetlands and there is probably some merit in trying to cross pollinate between the thoughts of this group and say the thoughts of the group actioning the regional biodiversity strategy. I think a few of us will need to think about the opportunities that might present themselves for a delegation from the TANK group to make an appearance in front of the Guardians, and the Foundation. Just to emphasize the importance of TANK wetlands to this group. Make sure that the Guardians and the Foundation are mindful of this group's perspectives.

Who are the Guardians? *Desiree: The Guardians are an incorporated society, \$20 to join and anyone can join. There is an executive group Connie Norgate is the chair, Kay Griffiths, Maree Taylor, Amelia McQueen are the executive of the incorporated society. They have a role in their rules to appoint two of the trustees and to advise the trustees on projects. The Foundation has five interim trustees who are there to establish it. The idea is to build a long term endowment, thinking big, \$10m endowment, that will fund through philanthropist corporations etc which will fund biodiversity work on the ground. The Foundation are Charles Dougherty, professor of biology who has retired from Victoria University, is the chair, James Palmer, who has an automatic seat as the CE of HBRC, David Allen, Mike Halliday (from Guthrie Smith) and Des Ratima.*

So where does the Regional Council fit in all of this?

Tom: Excellent article in BayBuzz. I would urge everybody to have a read of it.

Can't make a decisions until I get some information, we quite often get cut off, because of time and these are important things. It is getting a little bit frustrating. *Mary-Anne: Maybe if we understood what your concern was, that we could address it more directly.*

Robyn: Which of these recommendations does it affect?.

All of them. Because as far as I can see the biodiversity strategy is HBRC initiated, that is who I have been dealing with. All of a sudden we have got a foundation and guardians and I don't know where it all fits in.

Desiree: The strategy itself is a community document it is not a Regional Council document, (Nathan and Kim sat on it). The infrastructure now is the Foundation and the Guardians. It is a collaborative, multi stakeholder. Regional Council facilitated it and it is a community driven document and process.

Robyn: It is a bit like TANK.

I thought it was the RC and the responsibility of the RC.

Desiree: the RC has a clear role under the RMA, as does other agencies like TAs so we are not abdicating our role but it is more than just the RC.

There are similar ones throughout NZ, in Auckland, Taranaki and everywhere. We are just catching up.

Robyn: Lesley it would be quite valid for you to say I can support or not support any of these recommendations until I know more about that. That could be the outcome of this meeting.

Mary-Anne: But it would be very helpful for us because we don't know what to do next if we can't have some resolution about the direction of travel. So having said that we do actually need you to be directional. A directive in this conversation.

Tom: If the Biodiversity group is going to come with a more carefully developed list of wetlands, could that list be given, but its work is non statutory so it doesn't have any binding effect on anything. Could TANK look at the recommendations that fall within its space, or jurisdiction and give those sanction if you will by incorporating them in this plan change. If they say that there are 25 wetlands within the spatial domain of TANK Council can? reference those in its plan change and give them some extra oomph by doing so?

Gavin: There would be some big questions around timing, one workstream relative to another. In an ideal world, the Biodiversity Strategy would input into the TANK Plan Change content.

The Biodiversity Strategy is trailing the TANK process. *Gavin: It comes in late in the piece, and the TANK group has to wrestle with fitting that in at the 11th hour. Or through the TANK Plan Change hearing and submission process, it might be an input, as well. Which is a little bit further down the line again.*

Part of our discussions in one of our (LWWG) meetings was round a similar set up as the QEII trust for wetlands, and it was suggested that the Biodiversity group was looking at that in regards to this trust. Is that Trust going to be part of a QEII type conservation or will it have a function of a QEII type conservation area for wetlands? The suggestions was made that the Trust would be managing wetlands and you would be able to tie the wetland up in a trust so it couldn't be modified in the future. There is no mention of it here and I haven't at any stage heard the Biodiversity Trust mentioned a function like this.

Desiree: I don't think it has been specifically talked about but I can't see that it is off the table. Couldn't it also be done under QEII?

Mary-Anne: We are going off on a conversation about Biodiversity Strategy and what we want to focus on is what does the plan change in relation to the freshwater environment of wetlands need to say. Gavin has already described we have to have a range of values and we have talked about other reasons for wetlands encouragement or enhancement around its effect on water flows, and its effect on contaminants. Whilst the biodiversity strategy is a great vehicle the plan needs to recognise all of the values and other opportunities for enhancement so it is just one tool that we are referring to but we need to make sure that when we are advocating for wetlands and assessing applications to change them, against all of those values. You are focussing too much on the biodiversity strategy and you need to come back to what does the plan need to say about the wetlands.

Robyn: Can you make a recommendation how they should proceed, given this big question mark around what the Biodiversity Strategy is and isn't going to do.

Mary-Anne: We can answer some of those questions, but what the Wetlands Team has come up with is actually really good drafting instructions for us to give you, all of this discussion isn't helping us with refining that. Suggest that unless there is something missing or that we need to add to the recommendations you give us the job to feed it back to you in a draft in the new year.

The trust hasn't been included and I think it should be. I think it should be an option for Council and for the land owners to be able to tie some of these wetlands up and I just think it is not there and I think it should be.

Mary-Anne: We can make some of those enquiries. I don't think it would be in the plan, but it is part of that making connections.

Nathan: Gavin's point might not have been taken in the right direction. The point was instead of us listing what we think are significant wetlands in this plan change, this is one of the Biodiversity Strategy's workstreams that they are going to be doing. Maybe the Biodiversity Strategy will identify wetlands that are of different importance and it doesn't really deal with the plan change itself. Instead of us going down the route of trying to identify wetlands and arguing over which ones are more important, some are near and dear to our hearts and some aren't. The Biodiversity Strategy will start that process for us and we can go on moving around the regulations and rules and how we implement this stuff and not worry about listing wetlands.

Would like some more definition around marine systems, what is an estuary and what is a wetland within the TANK footprint.

The problem is the Wetlands group has been waiting for a definition of a wetland that is coming through pure process. So until we have got that we can't define it. That is the problem - that is Plan Change 5.

Robyn: So with all these uncertainties, can we see where we get to with this list of recommendations?

Recommendations: Agreed/disagreed

A1 – Agree

A2 – Issue with for now.

A3 – Agree

A4 – Agree

A5 – Agree (note: spelling mistake only 'achiever' should be achieve).

B1 – Agree

B2 – Agree

C1 – Agree

a. Agree

b. Agree

c. - Marei suggested insert new sub-clause c) recognise the values held by Mana whenua tikanga specific to their own area of influence

C2 – defining that natural wetland as a concept, Group comfortable with this however the devil in the detail. Further input required by WG. We have to work through what that actual definition will look like. Do we as a group, at this point say we don't know what it is and just hand it to the planners to come up with an answer. Or is there an interim step going back to the working group.

C3 –

a. - Natural wetlands - concern whether the terminology implies existing recognised or significant natural wetlands. There are a multitude of existing wetlands, some of them some people call them duck shooting ponds or maimais, or something like that, that probably need to be incorporated into some element of protection, so they are existing naturally but there are a multitude of small areas. There probably needs to be more clarification around what is in and what is out. Not just significant or recognised.

b. Agree

c. Agree

d. Agree

e. FEMP, change to FMP.

f. - New sub-clause f) suggested - Iwi/Hapu Management Plans. More overarching with Pekapeka and locals being involved in that management some added value evolved from that community. Someone from Pekapeka be involved in that working group.

There is still a need to elaborate on the words relating to Mana whenua Tikanga. Further input from relevant marae might be required.

Gavin: That is one wetland in amongst 1,000 dots on that map.

Suggest that someone from the Pekapeka Enhancement Programme join the LWWG. I see this as added value

Gavin: Is that really the right type of input we want into the working group when we are talking about all wetlands being very important within the generic TANK area.

Mary-Anne: Maybe both the Wetlands WG and the Tangata Whenua WG need to work together to make sure that they get the right input.

Gavin: But equally on the flip side of that it is not just about Pekapeka but it is not about Pekapeka's enhancement programme, certainly these discussions are much more global than that. So that any extra participant that might join the group needs to come with some clear expectations about, "it is not just their patch".

7. Item # 5 –Climate Change Policy – Ceri Edmonds

Ceri Edmonds Planner from HBRC presented policies and objectives in respect of Climate Change. It was agreed at the TANK Group meeting in April 2017 to incorporate a climate change policy within the TANK plan change.

The incorporation of policy is justified under the RMA. The definition of climate change within the RMA is as follows:

Climate change – means a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods.

Questions for clarification:

Increased sea levels might increase saltwater on surface flow, intrusion implies groundwater. Unless you've got increased abstraction, regulated and controlled elsewhere. Why are you going to get increased intrusion into groundwaters?

Ceri: This has been discussed with our scientists, there was a little foot note in respect of this in your paper (pre-circulated). There has been a pilot case study recently from GNS science and this was to support MBIE funding for assessing the effects of seawater rise under global climate change and they used our groundwater model. That study found there is very little risk of saline intrusion into the Heretaunga Plains aquifer, as a consequence of sea level rise. The reason that it is incorporated here is that we are not closing out the issue, that this could potentially be an issue at some point. But this study (from GNS) has not been reported.

Mary-Anne: It is a risk, it is probably not a high one but it is there for the sake of completeness, more than anything. So that we don't ignore the potential.

Query the handout - on page 3, key pressures, "diminished cultural and spiritual values of water, - mauri, mana & lifeforce of water". Why are our cultural values being diminished?

Ceri: I take your point on that. It is not necessarily the value that is diminished if the quality is diminished. The value is still there. Perhaps the wording is not quite right there.

Think the values can be diminished. I can see a scenario where the value would change over time when something is lost or degraded it loses its value, its cultural value over time. There are plenty of examples of stuff like that.

The very last dot point we talked about (identifying and adopting land management practices that mitigate adverse effects of increased rainfall), which I support, there should be a similar statement regarding the more effective and efficient use of a potentially declining water supply.

Ceri: This has been covered in the report. They haven't been included on the slide, because I didn't want to go into a debate on words, but I did suggest some examples of what policy could look like.

I looked at that list and think it been overlooked.

Ceri: If I can just read out the suggested policies, on page 4 of the handout (Policy A: Harvesting and storage of freshwater). This again is not set in stone, it is not exhaustive. They are simply suggestions of what policy could look like. That is why I didn't want to put them up on the slide. Because I didn't feel that this was particularly the arena to get into the nitty gritty of detail.

Robyn: Is more efficient use of water covered in any of those examples.

Mary-Anne: No it is not but we could.

We always think first of harvesting and storing water, as opposed to giving equal attention, at every level of

Whiteboard note: Add to policy 'water use efficiency and conservation'.

this to efficient use. The list on page 4 should refer to significantly increasing water conservation, there is no mention of water conservation in this document, nor is there mention of water efficiency and before we start running around storing water which implies building things to store water, it seems to me we need to be using the existing water as best we can and that is higher ranking in the hierarchy than engineering solutions.

An additional point is that the area of water retention in the landscape is not there, and the priority is to harvest and store water whereas the priority should be? collecting good hydrological information. National scale information (third bullet point of items to be addressed). We have already got a decision made to do water storage, when we haven't gathered all the material we need.

Ceri: I will just make the point that these are not in any particular order or priority.

But they are to the reader.

Ceri: They are not intended to be that way. We will re-order the items to be addressed.

Whiteboard note: 'Priority' of policy measures for climate change mitigation.

You have got that in increased drought we must have storage then why in increased flood don't we have bigger drains? Your solution to drought is water storage, so the solution to floods is bigger drains. We don't want to dis-incentivise this by offering engineering solutions.

It should be on efficient water use across the entire region. I would like to mention in the document that it is not production it is specifically food production. Human health is not just drinking water it is also food production. So in Objective C put food production in there.

The meeting broke into groups to discuss if they are happy with objectives and policies and come back with suggestions.

The meeting reconvened.

Robyn: What I want to do is go through Section 6 and 7, very similar to the last presentation and just get you to raise your hand if you have an issue with anything. Do any people have an issue with the Objective. Either section A B or C, just a general indication.

What about if you want to add to it?

Robyn: If you want to add to it that is fine. How many people would like to say something about the objective.

Ceri: Based on the comments we thought it might be beneficial if we front load the objective with the 'improving the community resilience' sentence, so bringing that bottom line to the fore because that is what we are trying to achieve.

Robyn: The suggestion is, take improving community resilience from where it is and put it up in the first bit. Are there any issues with the objectives: Does anyone want to comment on Section C?

Point C Predicted drought and the effect on water supply, it seems evidence is saying that there would be diminished water supply – period. And that by focussing on drought, we treat it as an emergency situation it is just about the summer. We have to do something about it. Whereas the real issue is that there could be diminished water supply on an on-going basis, which requires constant attention. Which drives to water efficiency and water conservation having more emphasis than ever. It seems to be that drought is emotive it sets you up to be thinking about emergency measures. Robyn: So if we changed it to something like predicted ongoing diminished water supply?

Robyn: That was point C, is there issue with objective A or B?

Obviously climate change is modelled over a very long period. Is there a specific limit that we are setting. In terms of ocean level rise. It could rise 1.5 metres, in 200 years. Are we planning for that in this TANK phase. Then it affects planning too or is it just because it is a very general state.

Mary-Anne: It is an evolving situation - so while we are setting limits in place, they may be affected by what might happen in the future and they might change as we get new data.

TANK is allowing for a model so we are actually planning on sea level change but not much beyond that. It may be that there is land that is uninhabitable, after 1 metre sea level rise.

Mary-Anne: So is that more like the natural hazards work that Ceri talked about (Clifton to Tongoio Coastal Hazards Strategy).

Well it could be so that is just one example. If we are talking about erosion is that erosion in 100 years' time or predicted storms getting more intense. In a lot of the documents you refer to change but specifics about what we are actually going to do in an event are often absent.

Drew: Coastal erosion and tsunami and coastal inundation are being dealt with specifically by the Clifton to Tongoio Coastal Hazards Strategy to 2120, so that is obviously one of those other pieces of work that are being done. The specifics are all being considered at the strategy.

Do we decide that in relation to water that the climate change science is not certain enough to give us any predictions for us to rely on. Therefore we should deal with it by policy so that it remains flexible and adaptable to the changing times. Is anything already being seen in HB? *Mary-Anne: Are we experiencing Climate change? Yes, I have been informed that yes we are experiencing climate change, what we don't know is how the climate change is going to impact our normal climate variability and over what time period. Those sorts of facts and figures aren't known to us at this stage. What we have to try and do, as Mark said, is address climate change through the policy building in flexibility so when information does become available we can adopt it and work on it.*

Robyn: Perhaps we could include some wording to that effect, somewhere in the narrative.

Ceri: One of the items to be addressed is the recognition of importance of national scale information and modelling and building in flexibility in decision making to allow for new information in the future (as indicated in the slides).

Robyn: The point that you are making Chris is that it is not clear whether you are trying to manage just for the next 10 years here or managing for the long term. Is there any time scale?

Ceri: The time scale that TANK works to is the Regional Plan, and when that gets reviewed, so there is the option of changing that policy through that review process. But for now we have to work to best endeavours on climate change and the information that we have available to us, which is limited, and we are relying on our historical data.

We are looking at what is predicted and predictions have fluctuated a bit over time. I am looking at that precautionary approach, and not limiting ourselves to what we can predict because that has changed and what information we are going on we need to go beyond that, worst case scenario what is predicted might not happen. What is the knowledge right now.

Ceri: So you would like to see the "predicted" reference worded so there is a "precautionary approach" reference in there. To all the points? Yes. It could be just be an additional point.

Robyn: It could be in the preamble such as a precautionary approach is taken in response to the predicted increase.

Can we change food production to food and fibre production in regards to security. We appear to be only looking at water supply, human health, production and systems in drought. If you have a flood with prediction of increased rainfall with an intensity, you also have an effect on human health, with sewage being put into the estuary. /we have got an issue with food and fibre production when we are only looking after human health under drought. Need to consider all aspects such as saltwater intrusion and high intensity rainfall. *Mary-Anne: So we need to recognise that in the drafting.*

What about biosecurity issues. Weed incursions that is the sort of thing that is going to cause problems. Where does that fall? If you have got an increased weed incursion you, it is changing your water flow and

everything depends on what the weeds are. If they are coming in there could be potentially new bees and new diseases as well

Mary-Anne: I think that is more in terms of biodiversity strategy rather than our water management plan.

There is a Biosecurity plan that is just going out for public consultation that does include climate, increased biosecurity, region wide look at that and monitoring.

Robyn: Would it give effect to TANK or would TANK give effect to it

They are equal. It is a region wide plan so it would supersede the umbrella. It would be the same as the Coastal Hazards plan.

The objectives are reactionary not proactive. We are talking about climate change and reacting to what is predicted instead of saying what can we do on the ground to reduce the impact of climate change or the impact on the environment to reduce the impact of climate change. Carbon storage and that kind of thing. We are throwing up our hands and saying it is going to happen how do we deal with it instead of, how can we affect the climate change, acknowledging it is a global thing but we have got to react on a local level. In the TANK process how do we deal with carbon storage and a lot of other issues, and reduce the impact of climate change in the future. *Ceri: I absolutely take your point but all of those issues, carbon storage etc are not specific to the TANK catchments, they would be something we need to address as a region but that is something that would come through when we look at the review of the Regional Resource Management Plan in 2020, because if we are asking the people who live within that TANK catchment to address climate change in that manner, then the rest of the region doesn't have to worry about it because there is no policy that affects them. It is not quite the right way of dealing with it. We need to have a regional wide approach to climate change. The report by EKOS which was presented to the E&S committee is looking at adapting to climate change, it is also looking at mitigating climate change. So it is not something that this group has a mandate to deal with really.*

Robyn: Can there be something in the plan change some record of here are some recommendations from TANK that need to be considered by the RPS or by a regional plan. *Mary-Anne: We are developing a bit of a list of those, so we will just add that one too.*

Action: include climate change mitigation measures in HBRC wider policy review (not within TANK scope)

Would like to make sure that we make clear statements, stating that we would like to see the urban and industrial users of water do their part to ensure that water will be available, it is quite important to say it is all about people who are using it. I did ask the Napier and Hastings city councils recently what they were doing and they came up with some very good ideas but I think it should be in here. To state that we would like to see something is being done, or should be done to protect and make good use of water, that does come down. It is not just the farmers. *Ceri: I think that in a) the reference to infrastructure was an attempt to do that. Perhaps we haven't gone far enough. And that is something we can look at expanding.*

Objective C, talks of production. Productivity is the term used for the concentration of chlorophyll and microalgae so there is productivity in the water, as well. So that chlorophyll in the ground can be related to chlorophyll in a microalgae scenario. So thinking about aquaculture systems, and security in the future we might get outside of our terrestrial mindset and recognise a good productive water system is required as a place in the food chain. It is not just to wet stuff it is the chlorophyll which feeds the fish.

Mary-Anne: It is not specific to land or food and fibre now so it could encompass what you are saying.

On page 3 the list 'Leading to key pressure' would like to see included in the reference to increased sedimentation of Rivers and lakes, mention of estuaries and coastal marine systems because they are really struggling, under the sediment loads.

Whiteboard note: Proposed Climate change Objective (item 6 within the report):

Sub-section C

- Change production to include food and fibre (not just terrestrial)
- Promote community resilience up to the front of the objective
- Reword predicted 'drought'
- Add biosecurity

Sub-section A

- Actions/ownership for urban and rural - reference to infrastructure not sufficient

General comments

- Climate change timing/context is vague, take a precautionary approach
- Reactionary not proactive – acknowledge the link to other HBRC process

Robyn moved the Group on to the Policies on page 4 and discussed the four bullet points. Including incorporation of a new bullet point

- Recognising the importance of water use efficiency and water conservation.

Policy C :

Identifying and looking at Land Management practices is the fourth bullet point and in Policy C, want to include water retention in the landscape in the wording. Robyn: So in Policy C include something about “water retention in the landscape”

No reference to tree planting/ perma culture as a foil to climate change.

Mary-Anne: It is an example of land use practices that we could adopt not specifically as a policy but within the explanation as an example.

Policy A:

Something should be signalled in there about household savings, should we pass a bylaw about the use of grey water systems or something along those lines. The policy as I read it is kind of slanted again towards large scale storage of freshwater. There are other forms of conservation.

Mary-Anne: So maybe that is a definition that harvesting or storage could be expanded to include all scales of practice. E.g. reuse of grey water

Group Agreed Policy Amendments:

Policy A – include conservation and efficiency and have a definition to the various scales of harvesting and storage (e.g. collection and reuse of grey-water)

Policy B – include reference to stormwater management schemes which address excess water

Policy C – Include reference to water retention in the landscape and provide examples in explanatory text to tree planting/permaculture as a land management technique

Jerf Van Beek said Grace before the group broke for lunch at 12.15pm.

The meeting reconvened at 12.50pm

8. Item # 6 – Staged Reductions – Dr Jeff Smith

Dr Jeff Smith gave his presentation and told the meeting that Staged reductions are a method of regulating allocation. Recommendation is to not adopt a formal staged reduction regime but allow for irrigators to voluntarily adjust combined abstractions at low flows where this may assist in maintaining low flows.

Questions:

Is this a damning indictment of staged reductions generally or more a reflection of the natural flow characteristics and the way it drops away in this particular river?

Jeff: Yes staged reductions might be effective in lowland streams that are spring fed or fed from ground water because the range of recession is a lot more prolonged. But for a gravel bed river like the Ngaruroro, the hydrogaps are quite flashy and so to get six weeks of staged reductions you have got to have very high flow when the staged reductions start occurring and it drops away quite quickly so they are not really having any beneficial effect.

Where there are staged reductions, is more water left in the river? *Jeff: When those partial restrictions are occurring? Yes. So if that was the case would that not be a tradeoff against having staged reductions and still having the normal cease take. It is not the irrigation takes that make a difference, it is what happens in the catchment whether it rains or not. If you have a cease take on the Ngaruroro, you get a lift of about two to three days and then the river just does exactly what it does. Why is it that you thought that by doing staged reduction you will have that same model with ceased takes. It is a tradeoff, trying to leave more water in earlier on, and make sure that you have traded off, and hence the cease take.* *Jeff: We were told to model staged reductions with cease take and without cease take. The question was, is staged reductions going to have any benefit, in terms of reliability and when you talk about no cease take are you meaning a 10% take that just continues while the river drops. So that would have the same reliability as the days on full restriction in that analysis. I don't mind one way or another whether it is a full ban or 10%, it is just that staged reductions will extend the period.*

Think that the reality is going to be worse than what the model suggests, purely because the only impositions that you are imposing are 920l/s of surface or surface connected takes. In a previous meeting (27?) HBRC told us that the total impact of reduction of all abstractions right through the HP was only going to be about a 19 to 20% improvement in minimum flow, if all of the other abstractions were continuing we are only putting and additional 20l/s which is just a proportion of the total. The impacts are absolutely negligible. I sincerely doubt that you are going to have a ban event one day and recover that. There is not effective recovery. I doubt that there would be any effective recovery because the amount of ban that you are applying at 920l/s is insignificant in the scheme of the total abstraction volume. *Jeff: That's right there is about an equal volume of stream depletion occurring as a consequence of ground water takes. And another 900l/s at Fernhill so you are right that is another issue that has to be addressed. When the flows are at 2.4cumecs and you have got a combined abstraction effect of 1.8 cumecs it is significant and dealing with the groundwater and stream depletion effects is a separate issue to what we are looking at here. It was simply to look at staged reductions and how they would be affected.*

Combined abstractions, so that would be catchment type restrictions working together.

Jeff: We were just suggesting that policy could enable that to happen, without being too prescriptive about it.

We are focussing on irrigators again. Food production.

Jeff: Surface water extraction are predominantly for irrigation.

Do you have any plans to model staged reductions for ground water restrictions as well. *Jeff: No because even if we put a complete ban on it takes quite a long time for the river to recover from that. So adding staged reductions to it, it would take longer again.*

Concern with maintaining the status quo with an impact around 80% habitat protection – if it is going to be anything less than that we are threatening that ecosystem, which has a symbiotic effect on everything else including life itself. We have got to act responsibly, much of this conversation is whether we have got the ability to compromise but act responsibly. Finding where the equilibrium is going to be the greatest challenge. Don't buy-in to removing the option of including staged reduction

Jeff: Is it about the minimum flow being considered to be less than 4000l/s, is that the issue? Absolutely, my whole premise is around habitat protection. Jeff: the presentation was entirely focussed on whether staged reduction would improve reliability and that minimum flow issue is still very much on the table. Staged reductions needed to be modelled as is going into the economic assessment. What is being asked today is should we even bother to model the staged reductions as a scenario, as that is not going to achieve any objectives as to reliability.

Robyn: We are not presenting any suggestion about what the minimum flow should be. Jeff is saying is that staged reduction are not going to work as a means for keeping water in the river, so we have got to look at other methods. *Jeff: yes that is exactly right and the 2.4cumecs is just a book end.*

Is there a need to model combinations of an increase in habitat protection levels, and a staged reduction with no cease take. No.

Not modelling staged reductions with cease take is a problem. *Mary-Anne: Cease take has a really big cost on the irrigators, you get this really big impact and you actually don't get any particular benefit out of doing that. Because the staged reductions don't work terribly well we won't model them further but we will further model the impact of the continuing 10% take.*

10% is just a round number that we have often talked about. At the moment we are talking about 1l/s per consent which is very little. Also rate of take needs to drop.

Robyn: What we do have to debate today is. Whether we want Rob to go ahead and model staged reductions as a method of deferring the minimum flow. Whatever the minimum flow is, yes or no. And Jeff's evidence clearly suggests it doesn't work, so it would save Rob having to do a whole lot of work then still we have got to make decisions about what the minimum flow is and whether there is 10% or not. That is all further down the track. We just want to get this one off the table.

Mike Glazebrook was right, he always has opposed this, he reckons it doesn't work, he has lived a lot longer along the river than I have. *Jeff: So whether or not it is 10% of the take is available rather than a cease take (whether it is 15% or 5%), the reliability of that, these are the number of days per year in the black bars where you'd be on that really low rate of take. The question is would staged reductions reduce the amount of time when you are on that really low rate of take and the answer is no. Because those red bars are pretty much the same.*

What in stream values are left? What additional benefit are you gaining for the river - the values in the river during those staged reductions, then at the end what is the water like if you continue to take until it starts to rain. *Jeff: Once everyone is on full ban staged reductions or not doesn't really matter, the river keeps declining once you get above 5cumecs whether they are on staged reductions or a full take, it doesn't really matter that much. Potentially there is some benefit to the river from having partial restrictions but it would be very difficult to measure it.*

Robyn: So would it be true to say that we have got far better tools for managing instream values than staged reductions.? *Jeff: It really depends on the minimum flow, that is the key thing, it is not about what happens before the minimum flow is achieved, in a river like this.*

You are saying that staged reduction won't work but if irrigators want to do it voluntarily then go ahead.

Why would they choose to do this? *Jeff: Not urging it, just enabling in the policy if there was such a scheme that became apparent that they're able to do that.*

Mary-Anne: There is always a possibility too of augmentation schemes that might enable the irrigators to work more efficiently with what's available and for any given flow the amount of water that is able to be used, can be more effectively shared amongst where the demand is. So it is enabling. On a smaller scale it might work and not forgetting there are tributaries where we might have additional flow restrictions that you could work at a tributary level to do this. Augmentation can and does work.

It would be useful to have a list of streams where it could work .e.g. Raupare.

Jeff: More than happy to remove the reference on the second recommendation to "allow irrigators to do it voluntarily etc", and say do not adopt a formal staged reduction scheme.

Could we look at staged reductions for other waterways?

Jeff: Definitely the Twyford irrigators group has shown it works in those groundwater fed lowland streams and the reason that it works is because whereas you have a really steep flow recession for the Ngaruroro, the lowland stream is very flat so you get long periods of time where you can apply those staged reductions.

There will be consideration of augmentation schemes for those lowland streams as well. If you can avoid having to augment by bringing in staged reductions it keeps everyone happy and it is using the water and reduces the augmentation requirements, then that is a great idea. Just to be clear we didn't actually model the Tutaekuri, I can tell you now that having looked at the hydrograph, that would be a fool's errand. It would show exactly the same thing.

It is going to RPC in May so we need to have technical reports written, peer reviewed, revised and published by the end of then, we need to stop doing the modelling in December and we are on the TANK agenda for February, so this will come back then. If we keep getting scenarios to model we are not going to be able to meet that May deadline for reporting.

Robyn: So maybe could we incorporate some suggestion that if we know that staged reductions work that we encourage it.

We just create a policy that would enable it.

Agreement: Rob not modelling staged reductions on Tutaekuri and Ngaruroro Rivers

9. Item # 7 – Water Allocation Options – Malcolm Miller

Malcolm Miller keen to have good guidance and guidelines when it comes to administering the plan. He gave his presentation. Robyn pointed out that a number of decisions to be made today, as a result of Malcolm's presentation, to be considered during his presentation.

Questions from during Malcolm's presentation:

Queried if the numbers have been modified so that the annualised low flow numbers has gone up slightly.

Malcolm confirmed this utilised historic information.

Malcolm: Summary of recommendations:

1. *Allocation limit - continue to use the existing formula but*
 - *Irrigators to manage impact on their security of supply with any minimum flow increase*
2. *Permit allocations = average rate (L/s) determined from weekly / 28 day volume.*

Do you agree? If not why not?

Questions:

What is the membership of the water allocation group. *Mary-Anne: It is a sub group of the TANK. The Water Augmentation Group.* **Can someone give us a quick summary of the augmentation options that have been looked at?**

Mary-Anne noted the meeting notes were on the portal. It is probably not strictly relevant because the augmentation group have got about four different jobs to look at including the groundwater flow augmentation options, the Mike Glazebrook's scenario for offsetting the impact on surface water takes. Looking at new demand and looking a flow triggers for storage. So that is the scope of their brief currently they won't be looking at particular new augmentation options. Just allowing for them through the high flow allocation work. Next meeting programmed for 11 December looking at some fairly detailed work then.

"Level of effect" - looks like quite a blanket way of defining it. Whereas every well has got its own unique level of effect on a water body, that it has an effect on and some currently not even connected to a water body. Is level of effect included in this?

Malcolm: I do address this a little bit further on, this is the space between groundwater and surface water, how do we manage stream depleting groundwater takes. The model is telling us much more is connected than we would have managed in the past, and I think there is some different thinking about how to manage that.

How does the 2400 shutoff affect other shutoff limits? Will it mean that other shutoff limits will increase.

Malcolm: Are you talking about takes at a high flow? Yes 5000 shutoff go to 7000shutoff.

Malcolm: I think there would need to be some sort of sensitivity testing to see that there is some separation between allocation bans, if the bottom line goes up and the top of the ban sits within the...well T 95 will actually change but if the amount that's allocated rises with the minimum flow of 4000 is set and you sit with an allocation limited of 1.5 you are looking at 5.5cumecs when you are taking the flow threatening the low flow and if other takes are occurring able to occur down to 5 and then to raise that higher,

Mary-Anne: That is part of the Augmentation Group programme scope.

In Karamu catchment looking at your table there it looks as if there would be a huge advantage. *Malcolm: There are four zones proposed for groundwater.*

Zone 1 - being quite directly affecting surface water so we are suggesting that that zone should be counted as surface water and transfers could occur from surface water into the ground water, from the stream into that zone.

Mary-Anne: But we need to do a bit more thinking about that and a little bit more technical examination of what would happen if surface waters were transferred to become groundwater takes so we actually don't know the answer to that question just yet.

On reliability of supply 95% there is no actual indication as far as ground water. Is there a difference in reliability of supply. I seem to recall though that the figures are 95% surface water but 90% ground water can you explain where those figures come from? Is there a difference and if so why?

Malcolm: They are different things. For surface water there is a separate policy which is looking to allocate water sufficient for up to the 1/5 year drought. So basically 1 in 5 year reliability. For ground water it is 1 in 10 year reliability. So that's is where we actually set the total amount of water what a consent can take. We are looking at giving sufficient water so having allocated ground water, as long as you have got a minimum flow you have got 100% access to that resource.

T95% is that naturalised water flow? *Jeff: If it is naturalised it won't include ground water takes.*

Need to see more detail where those zones are. Especially the ones that are directly linked to the river. Would like to know before I make a recommendation.

Mary-Anne: So you want detailed scale maps with Zone 1 etc. Can we have a provisional decision, that lets us do some work and report back on some of the detail. Because otherwise we get no forward movement.

I am going to say no. I am going to need time. WE need to have a good understanding of what is to be decided for those who we represent.

Robyn: Point taken. Could we get an initial show of hands now of whether you agree or disagree with those recommendations just as an indicator and then come back to it again at the end of the presentation. Who agrees with the above recommendations?

Three agreed. (No agreement reached).

Malcolm continued with his presentation. "Continuing with groundwater allocation limits"

Is 90M m³ per year a 1 in 20 event, or whatever that 2013 event was.

Malcolm: The 90 is basically 1 year in 10. But 2012/2013 year I think was in the order of 1 in 20 year drought.

How can you relate security of supply when there are no conditions. Security of supply says I am not going to have water available for a ground water take, however you have got permission to take that water with no other conditions to say you cannot take it. So you have got 100% security of supply.

Malcolm: Two things if you are allocated groundwater without any constraint in terms of minimum flows, you can take that 100% of the time to meet your demand. But within the volume that you are actually assigned there is a limit that is set, that limit might not be sufficient for every year.

After August 2017 we can on a global consent situation, put new ground under irrigation sharing our existing total take.

Malcolm: Yes, we haven't presented it here we have set out FAQ's on the web to explain how we will administer this phase, we have more, new science, better understanding of the how the whole system works.

TANK could actually tell us to do it a little bit differently if you choose but at the moment we are putting the brakes on allocating more water. We don't want to see non-used water suddenly being utilised so if people are operating in 2012 didn't use the water we would questions why they would need to use it in the future. Except to expand on other land so we will put some constraint on that. We made an exception to that statement to the Twyford Global group because we saw that as the fore runner to probably some of the solutions that are going to come through TANK, to decide how can we manage the water better. Twyford has got water allocated which has been brought in from a good number of consent holders sitting in a pool and it can be pushed further afield if there is a need for that water. We are willing to let that happen along with augmentation to see if that can actually be a solution to allocation going forward.

Is the 90M m³/year required to irrigate the Heretaunga Plains? Are we are looking at what is allocated currently. There is 181 M m³/year, less what has already been used. Another 90 M m³/year is required to irrigate the main on the Heretaunga Plains. Is that correct or if you are looking at augmentation or storage.

Malcolm: There are still some questions that we are still battling with to fully understand. In terms of the 181, that is an estimate that we have made because groundwater consents don't have an annual volume assigned to them. Initially it was calculated as the daily average rate of take times 150. We have got to do a bit more work and one way to lock it down is to review every consent and get an annual volume fixed on that consent, sum them and then we will know what we have got allocated fully.

90 is what is through the observed model as being used for irrigation and municipal supply. So that is what we have actually got as modelled use. Versus 180 roughly allocated on paper.

Robyn: So this is what we decided several meetings ago. That we were going to cap the allocation at the existing use. Rather than at the existing allocation which is way above that. Previously agreed to "cap the allocation at the existing use and investigate the effect of reducing to below the existing level of abstraction".

What is the relationship of these recommendations with any possible lifting or increasing of the minimum flow.

Malcolm: I suppose the stream depletion one is saying we will count surface water or count the takes which are quite direct from groundwater close to the stream, close to the Ngaruroro as surface water and they would have a minimum flow. They would be counted in allocation as surface water and they would be managed with the minimum flow condition. The rest of the groundwater basically the 90m is partly what is guiding what is sustainable in terms of the impact that ground water abstraction is having on the Ngaruroro. So if you continue to allocate more water you are going to compound the effect on the Ngaruroro. But I think there is also a strategy to

say how do we manage to augment etc the Ngaruroro, you have got your whole discussion on residual flow or supplementary flow that would occur into the Ngaruroro, to hold minimum flows up.

This is actually the crux for me and for my group that I represent. I would ask if we could give it some thought and discuss it with those who we represent because this is actually very important. We are just not talking about minimum flows we are talking about economic impacts and we are also talking about environment. If we pause this and if we have to call a special meeting to make a decision then we do it.

I concur with that too, at this stage we have heard a lot about environmental impacts but we have had nothing on the economic impact and that's a significant factor in a lot of our decision making processes.

Robyn: I am hearing that the plea is to continue with the presentation but to not make decisions today. Until you have time to consider this with your groups.

We see the minimum flows 2400 appearing all the time and here we have got a figure of 90 which is the highest existing back to 2012/2013 what is the relationship between the 90million allocated and the flow in the Ngaruroro. Is that going to make less water available.

Mary-Anne: Some of this information comes from Jeff's Modelling that shows the extent to which that 90million has effect on the minimum flows in the Ngaruroro. That information is going to the water augmentation group to have a look at what kind of mitigation measures through augmentation could offset the impact of that groundwater depleting effect on the Ngaruroro. If the minimum flow goes up then the costs of the mitigation will be higher because you will be talking more water to mitigate the effect of that ground water depletion. So there is an economic impact of an increased flow, on the stream depleting groundwater takes, potentially.

Did we not get a presentation too that basically said that every take on the Heretaunga Plains should be deemed stream depleting. Are we sticking with that? Mary-Anne: We are sticking with that. In zones 2,3, and 4 and we have got Pawel's calculator that will help us work out the proportion to which they have a stream depleting effect. And we are thinking we can use that to calculate the equivalent contribution to a mitigation scheme on that basis, and that is something we want the Augmentation Group to work out the costs of those schemes. Which will come back to you at some later date.

But if we wanted to set the limit 78 versus 90 doesn't that effectively imply less need. There might be surplus in the system. Which would in effect mean less need for a longer period.

Mary-Anne: One of the modelling scenarios that we are going to pass through to the economists, is to have a look at what happens if we decrease allocations below the existing use levels.

Robyn: If we were to reduce the overall allocation and raise the minimum flow. What happens then to security of supply, it goes way down. Does it?

Malcolm: If you reduce the allocation you basically going to be having to either take people fully out of having irrigation or reduce the scale of what they are doing. Those who then retain water might have similar reliability if you actually have to drop people out of being able to take water.

Robyn: But if you raise the minimum flow as well. Those who are connected to the minimum flow then it reduces their security even further.

Mary-Anne: They might have to pay more to offset or to mitigate the effects of that take. So it is a cost.

For absolute clarity 90m cubic metre does not include the modelled effect of stream depletion. It is just the estimation of the actual takes and that dry year. Malcolm: From Groundwater. That has a massive impact on reliability of supply - 90m should be excluding the effect of stream depletion.

Mary-Anne: The 21m is the old way of calculating stream depletion. It is no longer relevant to the new way of how we have arranged zone 1, zones 2, 3 and 4.

But it is relevant to the benchmark, that we set. Malcolm: My understanding is that is does, the 90m is ground water takes which would include stream depleting groundwater takes.

We have seen through Overseer there can be massive problems in plans if you write a hard number in that has come out of a model and then the model assumptions change.

Mary-Anne: We have to have a limit for ground water allocation.

You might want to separate it out and have sub limits in writing

Malcolm continued with his presentation: How much is reasonable for each irrigation take?

This does grandfather in all existing land uses, all existing farming systems, so even if from the public interest stand point, if there were less water intensive farming pursuits that were available on the Heretaunga Plains, more water efficient ones, we remain neutral in our rules.

Malcolm: At this stage we are not making a judgement on the farming type. To do this would first of all set allocation and volumes on every consent, basically reflecting current practice, or current activities, it should be efficient and it should be no more than what these sorts of model would demonstrate. Having done that we are still sitting way above what we have set as the allocation limit we have then got to come to a setting stage and say how do we actually reduce, are we out there educating people about their options for more efficient practices and less demanding farming practices.

Mary-Anne: We do have to come back to your questions in terms of priority allocations so at the moment we are just assuming that we are providing for the existing status quo. We will give you the opportunity later to revisit that priority allocation.

The meeting broke for the project team to confer and decide where to from here.

Robyn: We have acknowledged that there is way too much information to digest and make decisions on this afternoon, and we have heard the call not to have to make decisions. However people have been contracted to run scenarios over the next couple of months so that you can have information to make decisions on next year. In order for them to be able to run those models you need to give them direction on what the allocation limit is. Just for modelling purposes, this is not a final decision, right? They will also run a percentage lower than that, because some of you said we would also like to look at the possibility of reducing the total allocation, keeping more water in the river. So do you want to model that number minus 10%, minus 15% or minus 20% ?

Jeff: This isn't setting a limit it is identifying an allocation limit that will leave you best informed once the economic assessment is done. So that 90m cubic metres of ground water is modelled, that includes the modelled irrigation demand. In that 90m cubic metres, we are absolutely confident in the industrial abstraction components of it, and municipal component, drinking water supply component of it. Because they are measured. The irrigation demand was used as a proxy for actual water use in irrigation and we are confident in that as well because we have some water meter data in recent years for the larger takes, and we were able to look at the modelled irrigation demand and could compare it with the actual use from those takes and it came out reasonably close, in fact closer than we thought because there is usually a bit of inefficiency in there. The smaller takes who aren't metered are probably likely to be the ones that are less efficient - we are pretty confident in those irrigation demand data, being a good proxy for actual use.

So that 90m cubic metres a year is for a really bad dry year, like the summer of 2013 and the average over that five year period around that was about 78m cubic metres. So for that economic assessment what we are wondering is would the group feel informed if AgFirst went away and modelled a ground water allocation of 90m cubic metres per year and should we subtract the Zone 1 takes?

There was some confusion about 21m cubic metres and it was suggested that it not be further referred to. It was the historic approach to allocating stream depleting takes. What we know from the modelling is that all of the groundwater takes are stream depleting. So it should all be treated the same.

Can we have an accurate map of the zones? How many consents are in that zoneone?

Action: prepare a map of Zone 1 including irrigation consents within that zone

Jeff: We need to bookend a range that Agfirst can model for the economic assessment so what if the allocation was reduced from the actual use now. If we take it 15% lower than that, that would bring it down to around the 78m Cubic metres that is the average over the last few years.

Agreement: Unanimous agreement to provide the following figures to Agfirst for the purpose of the economic assessment:

- 90M m3/year – less Zone 1, and
- Plus and minus 15%

Questions:

Are you going to reduce to 90m cubic metres which is half of the allocation now. Are you going to use the same rule for allocating that water, if so the actual use will be reduced to 45m cubic metres. *Mary-Anne: Those are some of the other assumptions that are going to be needed to build the economic model and what I was going to suggest was that we use the existing management regime which is the irrigation reliability as per the RPS and using the crop models, crop soil models to determine what the existing use levels are.*

The rules that we have currently on the Ngaruroro River we can only ever take about 65 to 70% of the water that is allocated for irrigation. It is just not possible to pump any more. *Mary-Anne: Leander's comment about the existing use that we are re-allocating on the basis of the crop and the irrigation reliabilities. The re-allocations will be less than what irrigators currently hold so the annual allocation could potentially be less than what they have got. So that has an impact on their access to water. The other aspects of Malcolm's discussion are things that we do need to come back to and the next few meetings are going to be fairly full - suggest another meeting sometime at the end of January. Will come back to some of the other components of the re-allocation of water, including the timeframes. If you could have a look at Malcolm's presentation in the meantime and think about those issues, so we can come back to them in January.*

Action for the Group: To review and consider the remainder of Malcolm's presentation so these can be discussed in January 2018.

Mary-Anne: In advance of the meeting a supporting report might be better and if we can phrase some of the discussion in a little bit more text that would be helpful.

Action: MAB/Malcolm to prepare and pre-circulate a supporting report

Could we model an increase in minimum flows. *Mary-Anne: Those are already part of the scenarios that you have decided on.*

How is the modelling for groundwater to be measured?

Mary-Anne: We will be looking at annual allocations with the ground water. And they will be based on the demand across the season, not allocation that is the same all season.

Lesley requested that she present a 5 – 10 minute presentation on food security, to the Group at the next meeting.

Decision: Group agreed that Lesley would present at the next plenary meeting in January.

10. Item # 8 – Economic Modelling – Leander Archer from Agfirst.

Leander gave her presentation. It was noted that this was not a decision making presentation, it was for information only.

Mary-Anne: One of the really good things out of the work that AgFirst is doing is that we can model precisely the scenarios that you have chosen or we could model one that represents that Tutaekuri at 2000 plus the no ban for ground water takes, they are similar in terms of statistics. You lose some detail if you take this approach but what you get is a model that if the statistics change you just use the same assessment. The crop needs don't change if your data changes. So this is a way of future proofing our analysis so that when we do get new climate change data we re-run the analysis and see where the lines are again for each management scenario. It means that we are not precisely modelling the management scenarios you have chosen for all of them. For example we can interpolate existing use and we take it 15% down we can interpolate what happens to the statistics but not precisely model it.

Leander continued with her presentation.

Councillor Belford: The whole analysis is basically a glorified justification for the status quo.

Tom Skerman: What would the alternative analysis be. The analysis seems to be pointing toward a predetermined conclusion. That we are going to find out that if we lift the low flow limit it is going to have a dire economic impact on the region.

Not dire, it is going to have an impact. What this is going to do is to demonstrate what that impact will be.

Mary-Anne: We actually have to do this because it is part of the NPFSM to actually understand the impacts of changes to minimum flows. What you do with it is in relation to understanding the economic impact. So that is a subsequent discussion for you to think about, that this is the impact of your decisions. The analysis is just giving you more information to know what the implications are.

Tom Skerman: Pointed out the scenario that has played out in the Tukituki - regardless of process when there is a new flow regime, and new allocation regime it has a measurable impact.

It has one impact if you assume that everybody wants to continue business as usual, but it has a different impact - we can't afford to grow high water using crops in the Heretaunga Plains, period. We are out of business. Everything needs water but we have been shown that, or made clear that different crops have different water requirements. Over different times.

There has been no assessment on the impact to Tāngata Whenua/Marae. There has been no discussion of compensation or any kind of values. We are just seeing all the climate change and we are all discussing other kinds of mitigation measures, but it doesn't mean we can continue in this water stressed region. Has to be some give on both sides. It is the time frames that change, we have spent five years discussing it.

Mary-Anne - We can't make value judgements that Tom is making or time frame changes that you are talking about without some reasonable understanding of what the impacts are that we might be forcing on our community.

Leander continued.

Idea posed – if farmers work together more, this could provide a crossover of wetland and water storage. Which might up irrigability days.

Leander: The premise of this is that it gives you a starting point to then think about sort of ideas that mitigate the number of ban days and that would be one of those mitigation strategies, that would bring you further up the scale.

Farmers are considering alternative crops – e.g. kiwifruit because of the lack of frost days.

The economic analysis, is a worst case scenario. For instance Heinz Watties, you read their environmental statement and they say that we are committed to reducing water and working on tomato crops that are going to require less water, they are modelling this and it says that the economic impact is going to be X, it will be a worst case scenario. We have to put that into perspective – a base line economic assessment is necessary.

Action: Leander to email presentation to the Group

Is emergency water to keep root stock alive in an orchard, including grapevines etc. In that case it wouldn't be appropriate to use it for anything else.

Different operations will use it differently. Vineyards and orchards might put 10% over the whole area. But if you were a pastoral operation or an arable operation you might irrigate 10% of the area fully.

Mary-Anne: That was one of the challenges, because individuals make different decisions. You can't predict what everyone will decide. So we had to model something.

Growers will divert water to recent plantings

Leander: If farmers have 10% of their area planted in young trees they might divert to that 10% of water to those young trees and hope that the rest will survive through, because the risk that those young trees will actually die is much greater.

Robyn: In reality you will use that water however you want to, AgFirst can't assume all these different uses. So you are just going to model it on, as if they were using it on 10% of their land.

Leander: The Group will need to advise if they want an alternative. Steve will do the cease take modelling. He could do by crop and a 10% water use and by crop determine how they use that. So I can say for pipfruit they are going to just use 10% over the whole area and for vegetables their most profitable crop, out of that hectareage comes through and the rest dies. But that would just mean that we don't get to see the cease take option.

So if you took scenario three and scientific information using SPASMO what kind of application could put that into the green. *Leander: So if you want to keep the Ngaruroro at 4000 l/s, what we can do is model the economic impact of that. And then it goes back to the Group to determine if we do this augmentation scheme what does that mean for how much more water is available for the irrigators to use and what if we also saw that a lot more of that area just gets grapes because it has got lower security of supply or whatever it is. And then you'd know that that now brings that security of supply to the grower down further.*

We are and will continue to see land use change, the economic model won't show that, but that's what reality demonstrates to us. From irrigated to dry land farming operations or much lower water use operations. Apart from production it has a substantial impact on land use.

Leander: We are going to show what will happen immediately to farm gate, and beyond that there is Brian Bell's work. You will be able to see from the economics of it, okay that is not going to happen anymore at that level of security of supply. So you know that that land use is going to change or if TANK can provide some alternate method like augmentation it happens to be to actually lower, or increase the security of supply. Then it might be able to stay and that is over to TANK. Is Brian Bell going to talk about land use change in response to all this?

Mary Anne:- No he is going to take the information from AgFirst and what that looks like for the region, we will get is a better understanding about the security of supply requirements for each of the different crops. And we can do some calculations around hectareage ourselves, water use and work out a different land use pattern. And since we have got the Ebits for each of those crops we can still work that out.

Bans are a blunt instrument, there are different ways of getting the same economic and environmental response, doing it differently. So even people on the other side need to think that what is the best way to do this. There are ways of having your cake and eat it too. It needs some things have to go and some things have to change. E.g. In Australia where they are going bans, what they will do is they will halve the crop and they survive going through. That will mean that they have some water available but the pain is worn by both parties. It needs to be quite understood by everybody.

Leander: one of the constraints to determining what the land use change is going to be is actually that at a certain price point that we are currently at with the three year average sure we would have land use change however if prices went up and 2 years' time, there will be completely different potentially, and so at that point the pricing works. So It is very difficult to model that.

Robyn: If the group requested it, you could give us an indication of what sort of information you could provide about solutions. If the group wanted.

Leander's presentation concluded.

Kereru Field Trip 29 November. Please let Nicky know.

Upcoming meeting agendas

January meeting - new meeting so there is no planned agenda as yet.

- Monitoring Plan - Stephen Swabey
- Food security presentation – Lesley Wilson

February meeting

- reporting back from the SW for decision making
- additional report back from Jeff's team
- report back from Agfirst.
- Joint Drinking water group has been working on some possible policy solutions whether or not they are appropriate as a TANK Plan change or regional plan change is yet to be determined but that is hopefully we will have a report back from that group.
- Nutrient and sediment mitigation measures and modelling - report back on what they might look like.

If I wanted to set minimum flows for the Mangone and the Mangatutu, in the Tutaekuri catchment what is the most appropriate time to do it.

Mary-Anne: We have thought about some default provisions that might fit in with the overall approach for both those main stems and apply them to the tributaries, so that we don't end up causing problems in the tributaries as a consequence of the focus on the Ngaruroro. We will probably end up with some default provisions that rather than spend the meeting talking about we will give you a draft of them at one of the later meetings next year.

11. Item # 9

The meeting closed at 4.40pm with a karakia said altogether.

Summary of Action Points

ID	Action item
35.1	To agree whether minutes could/could not be circulated in draft to respective organisational bodies.
35.2	LWWG to work through a number of examples, obvious examples.
35.3	Include climate change mitigation measures in HBRC wider policy review (not within TANK scope)
35.3	prepare a map of Zone 1 including irrigation consents within that zone
35.4	Schedule another meeting after 20 January 2018
35.5	Send Malcolm's presentation out again before the next meeting with a short report covering the major points Group to review and consider the remainder of Malcolm's presentation so these can be discussed in January 2018.
35.6	Email out Leander's presentation to everyone so that they can read and digest the detail.