TANK Collaborative Stakeholder Group

Meeting Thirty-Three Record

When: Tuesday 10 October 2017, 9:30am – 4:35pm

Where: Ellwood Function Centre 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 on objectives for contaminant loads to the estuaries
2. Agree on desired attribute states
3. Discuss nutrient management approach(s) and agree next steps

AGENDA ITEMS

1. Welcome and karakia

Joella Brown opened the meeting with a Karakia.

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

- Housekeeping matters covered.
- Video cameraman roaming around as Communications are doing a video of the process.
- Apologies were confirmed (see attendance table above).
- The meeting agenda and objectives were outlined.
- Ground rules for observers confirmed.
- Engagement etiquette was covered.
    - Concern was expressed about some of the comments and behaviour at the last meeting
    - Staff members shouldn't be criticised
    - Specific groups within TANK should not be bad-mouthed
- Open floor for TANK members for notices and announcements.

3. Item # 1: Notices

James Palmer gave an update on the WCO process

The planned two stage process for the WCO hearings;

- the first commencing 14 November relating to the upper reaches, (from the Whanawhana cableway upstream)
- After receiving advice from HBRC by 31 January 2018 about whether timing for TANK science outputs particularly the ground water modelling, will be ready in time to consider the lower reaches of the WCO water bodies, tentatively set a hearing for May.

Any organisations or individuals around the table will need to be giving some time and attention to the tribunal's hearings in November.

James sought feedback about the TANK meeting track and whether people feel that it is unviable. The effect of the upper reaches hearings will put a significant impost on people's time and resources and might preclude meaningful participation in this (TANK) process.

In relation to the lower reaches, the tribunal have indicated that they are not willing to wait until notification of the Plan Change. The Tribunal was not specific with respect to peer review but they have specifically referenced the ground water model. It was felt that the Tribunal would be open to receiving other relevant evidence if that was developed through the TANK process including the modelling to inform the socio-economic analysis due in June or July.

James said that by May or June next year Council would be reasonably well placed in terms of the evidential base to support the WCO hearings. But also in terms of decisions at the TANK table. He felt that the more the TANK group is resolved on a range of fronts the more useful that will be to the tribunal.

James asked if anyone had concerns about their ability to continue to participate in this process in parallel with those hearings?
Xan commented that it is becoming very clear about the expectations on TANK process to finish the process to a May deadline. Planned hearings about then are very concerning and probably unrealistic. He was particularly concerned about the unreasonable pressure on the TANK group and in particular the farmer groups as they still have a lot of work to do. There was a lot yet to do with the TANK process including wider involvement with landowners and making sure there opportunities for their input. He felt there may not be sufficient time for this wider involvement with the added pressure of meeting WCO timeframes.

How you think about balancing or trading off that need to have deep engagement with the end users and the expiry of resource consents particularly in the Gimlett gravels May 2019?
Some of the group thought that permits due for renewal could be rolled over for a year. There was wide support for time invested into a better TANK outcome, as that was far more important. It is good to have the May target for the group but there was concern about the have the WCO hearing date about that time as well.
There was some discussion about the timeframes. Some concern about continuing indefinitely with TANK.

Process timelines for consents.
Mary-Anne advised that in relation to managing the re-application process for existing consents, the council would normally start a year in advance. Council would start sending out reminders to consent holders about the expiry and invite renewal applications. The applicant would have to make the renewal application within three months of it expiring in order for it to retain some of the existing use protections. Three months before expiry is a critical time for the applicant, and the council would need to work out what it is going to say to the applicant once it starts the renewal process if it wanted to re-issue or just roll over existing permits for a set period.

There was concern that the TANK group has not yet had any information on the primary production and economic impacts of the decisions coming out of the TANK process.

James explained the economic modelling has already commenced with setting the economic model and results will be generated once the scenarios for water allocation and nutrient allocation that the group want modelled have been finalised. Economic outcomes will be used to understand the social impacts of the various different management scenarios. It is necessarily sequential and also iterative and we have yet to initiate that running of the economic and social analysis.

It was clarified that the economic work has been building an understanding of current land use, current profitability, economic inputs, outputs so we have got a working model of the catchment in an economic sense. Next will come the management variables so that we can understand what will happen if say we take away some water or we take away some nutrient allowance what are the impacts on farming. The model has been built and is largely set up and ready to go.

Timeframe Extension

The RPC paper was advised at its October meeting about need to extend target notification date from Dec 2017 to August 2018. The work programme including the economic and social impact modelling will take longer than first anticipated but the timeframes are based on working assumptions around delivering dates. It is also subject to the points raised about making the right decisions before finalising.

Despite the time and resource pressures of the WCO hearing timetable, the group was in general agreement about the need to continue the TANK work and to aim for the timeframes suggested for modelling and decision making.

James did note that if there was any problem with attendance at TANK meetings because of WCO hearings, that would be addressed as necessary.

Two more meetings for this year. 18 October and 22 November.
Proposed meeting dates for 2018:

- {post meeting note: an additional meeting was added for January 30th 2018}
- Thurs 22 Feb
- Thurs 22 March
- Thursday 19 April
- Tues 15 May

Offer of Attendance by Mike Joy
The group's opinion about attendance by Dr Mike Joy from Massey University was sought. Dr Joy [post meeting note; *he was the recipient of the inaugural Critic and Conscience of Society Award from NZ universities]* has previously discounted the value of collaborate processes on the basis of they are captured by industrial users.

Despite the potential for him to share insights and wisdom, the group agreed that it was probably better just to move on as they felt it was unlikely to be productive.

4. Item # 2 – Meeting Record 32 and Action points

Meeting Record 32. Some feedback received and will be incorporated by Desiree.
It was asked that the meeting record be a bit clearer about whether responses to questions were from HBRC or another TANK member.

Problem on page 10 from Ivan Knauf, corrections have been forwarded.
Follow up from the Ecological Economist, Jenny Mauger told the group that the sub group had not met yet.

Everybody happy with Meeting 32 record with minor changes made.

Questions and comments from TANK Members:
A TANK member referred to a research report about stock exclusion from waterways not having the benefit that people expected. It might be something to look at perhaps have a presentation regarding this. (post meeting note; the report is: Effectiveness of Stream Fencing to reduce E. Coli inputs to Streams from Pastoral Land Use. It is MPI Technical Paper No: 2017/09 prepared by NIWA and Agresearch. It is a review of all the published data for effectiveness of stream fencing including different levels of effectiveness of exclusion. Copies of the report available on request)

A query about adaptive management processes and the bullet point NPS-FM attribute state targets.
Mary-Anne advised that a national framework provides bottom lines for outcomes but TANK can certainly aim for higher than what the bottom lines are.

The difference between limits and targets and their impacts on land use was asked about. Especially in relation to nutrients and implication of these at the farm scale.
Mary-Anne: Objectives for water bodies express what we want to aim for. We can have intermediate steps that we call targets that we move towards over specified timeframes.

Limits are the expression of the maximum amount of resources available and which enable objectives to be met. The combination of objectives, target and limits are influenced by the time frames and the costs of mitigations; work that we are still working through.
The plan rules, which are measures or methods required to meet the objectives and targets, specify requirements for activities. So requirements at a property scale might be in relation to activities such as fencing or farm plans. Bearing in mind that new information is always being developed as to new mitigations or how effective measures are in helping meet objectives.

Further clarity was also sought in relation to zoning issues. We have got two main estuary systems. The Clive, Ngaruroro, Tutaekuri estuary is in the coastal management zone and which are influencing the decision making.
Mary-Anne: All of those catchments are part of our TANK work and we must have regard to the connections between freshwater bodies and coastal water. Anna will explain where and how the different fresh water systems impact on those estuary systems.
Anna: The planning framework for the estuary proper is within the Regional Coastal Environment Plan but when you look at the stressors, they come from the land and fresh water systems. We manage the estuarine values by managing upstream water quality limits. You can actually alter some of your limits upstream in order to achieve and estuarine value or protect your estuaries.
We are setting the objectives/limits for freshwater in a way that connects to what is happening in the estuary.

Action Points
Only one action items from minutes for Thomas W, regarding flows and fish/birds; he will be presenting at next week's meeting on the 18th October.

5. Item #3 – Lower Risk Trigger Values for the TANK estuaries – Anna Madarasz-Smith – Senior Scientist Coastal Quality

The information about the main stressors all seem to be basically farm related nutrient issues as opposed to urban stormwater issues, would there be any other things we would want to measure, or monitor? What about urban contaminants?
Anna: The Ahuriri has sky high DRP which is coming through from the urban catchment. There are urban sources of both phosphorus and nitrogen. The other contaminants are generally managed through policy and resource consenting controls for SW discharges. The SW discharges are direct discharges not diffuse as from rural land. The guidelines requirements for the same contaminants can equally be applied to the urban setting, but there is also trace metals and things like your PAHs which are managed through ANZECC guidelines.
The other urban contaminants will be addressed by the SW Working Group and the ANZECC quality guidelines will be relevant to your decisions. What we are going to decide for the fresh waters should equally go to the storm waters coming into the catchment as well.

What % of the contaminants are coming from urban and what are coming from rural?
Anna: We don't know at this point, but carrying out investigations to determine sources and proportions from the different catchments. My experience with Ahuriri is it is fairly cosmopolitan in its distribution, which leads us to conclude that part of it will natural processes. E.g. the low lying areas of Heretaunga and Ahuriri were peat swamp they are naturally high in DRP. However, there is no escaping the fact that they are much higher than they should be. We are identifying phosphorus in Ahuriri and Waitangi as a problem and I think at this point we need to be saying everyone has to do their bit.

Our process is to start from the values and work our way through the management variables and the values that we attributed to Ahuriri were primarily recreation, mahinga kai, and bird habitat and native fish. So how are these going to help us achieve those….
Anna: The first TANK report expressed concern around the poor water quality in the urban streams, but certainly within the estuary proper issues are around E. coli, faecal indicator bacteria and prevalence of faecal contamination predominantly for contact recreation, stormwater quality impacts on mahinga kai and also physical changes to the estuary area, the absence of things like flaxes etc that would be easy for that process of collecting kai. It all inter relates.
For example, native fish species do not like having no oxygen. So part of the solution is around the reducing those nutrients so that DO levels don't vary so much. Birds eat the things in the sediments so if sediments are full of

those really fine clays that turn really "anoxic" meaning no oxygen under the top layer of them and nothing can live there for the birds to feed on. These issues are aligned to meeting the values for the freshwater in the TANK catchments. E. coli isn't included as we already have a large amount of information and guidelines. The guideline values for E. coli in estuaries and freshwater in relation to infection rates and different bacteria strains and impacts on human health are under review. The previous work was done in 1998.

It looks like the higher nutrient concentrations are possibly around the Landcorp Farm and the Lagoon Farm. I was just wondering if livestock was removed from the Landcorp Farm, what would happen.
Anna: There are major benefits of taking out any regime that has a direct influence on nitrogen, phosphorus. There are two pumps that are represented on the slide; the yellow bars (slide 31) is the Woolshed Road pump/the Onehunga Pump Station at the very top end of the estuary. That pumps water from Bay View through the DoC wetland back up and into the top of the Estuary. We are talking to DoC, Landcorp, the Airport Company, NCC, because they are responsible for the water coming through the Bay View area. It is a major source of contamination and is described in a recent Council TANK estuaries report. The other thing though is that they are only intermittent and when you look at concentrations although the load is really high, that is the Woolshed on Pump Road and that is the creek on Prebensen Drive. So they are not the highest, there are some really other high inputs. I would assume this is another part where we have gone with the hotspot funding there should be some really low hanging fruit that we can get into and do some work and see some outcomes. I am hoping so.
The NCC have proposed to remove all their direct discharges of stormwater into the estuary and run them through treatment wetlands prior to discharge. That absolutely has got to see a difference.

Those are all concentrations, there is not volume so you don't get the total load, is that relevant?
Anna: That is because we are working within the estuary. And we don't have very good data about stream inflows to the Ahuriri; the streams can sometimes be un-gaugeable, either too small or inaccessible because of mud or tidal. And you have to account for the water flowing backwards as well. We are working on gauging during storms although half of them were 'orange' (where you float an orange to determine speed and then revisit to determine channel to get an idea of water volume) flow gaugings which the hydrology team tell me are just as appropriate. We are working out the contribution of different sources during an event like that. It means we are largely dealing with concentrations in the estuary itself at the moment. You will see in Sandy's slides for the Waitangi we do have some loads based on that source model at the very very low river stretches which we can assume is what is being delivered into the estuary. The Ahuriri does not have any model nodes.

Is there any connection between the pest worm species and relevance to the nutrients?
*Anna : Provided explanation about **Ficopomatus enigmaticus;** this invasive tubeworm is growing in the Ahuriri estuary; we have found small clumps of it in the Waitangi as well. This invasive tube-forming worm grows like a coral and in a calcium tube. The worm itself is very small but it is a filter feeder taking plankton out of the water. If a system is under pressure, it is more likely to be more susceptible to invasive species. There are other things that may have created a good home for this worm and that is changes in salinity regimes, we just don't know.*

A number of questions were raised in relation to the standards. Are one set of standard for all the estuaries in the Hawke's Bay Region? (slides 35/36) and how do they relate to the objectives?
*Anna: Firstly these are absolutely not standards. **These are low risk trigger guidelines**. Their only purpose here today is to give some indication as to the scale or magnitude of the problem, that we are facing in the estuaries. We suggest that with these values we shouldn't have any problems. We do not know the answer to how much we can increase before we start seeing problems. So just that is a really good thing to understand, these numbers are only contextual so that we know when we go back up the stream how much we need to reduce by.*
Yes this is related to the conversation about objectives - also in 10 years we will revisit these numbers and may find that they are not appropriate. Remember these numbers are not derived from understanding the aquatic organisms' responses. Monitoring our progress towards achieving better states will provide more information as to when those thresholds occur.

If it were a standard what would be the difference in terms of how we would respond to that?
Mary-Anne: We would need to know whether it is the right standard and how we could meet it. Given all the complexities that Anna has just talked about it would be a really difficult job, to work out how to meet that standard.

Anna: I also think it would be over-conservative and fairly onerous without this understanding, again this is on the precautionary side of where there could be an environmental response. So this is low risk, meaning that we are fairly confident that if we achieve these numbers in the estuary we would be pretty happy. Again how far up that line you can go before you start to see some adverse effects occur, that is the unknown. The really good thing about this process in looking at it in the adaptive approach that Mary-Anne has outlined before and the fact is we will not be able to reverse a century's worth of ills, in five or ten years. We can certainly make our way towards progress. When we monitor that, that will give us some more information.

Can you tell me why you have got the lowland, low risk trigger guidelines.
Anna: The low risk trigger guidelines are in those estuary waters and ANZECC lowland stream freshwater guidelines are ones applicable to the freshwaters. They aren't equal because of the nutrient processing capability in the estuaries. We aren't necessarily trying/wanting to manage these areas as lowland streams. All the little fresh water streams that are coming from Poraiti hills, from Esk Hills, from Napier City are subject to lowland fresh water guidelines but when you get to the estuary you have no guidelines. We developed the low risk trigger guidelines for the estuary and we are working our way backwards to determine how much we need to reduce in the small streams flowing into the estuary in order to make some change to the estuary.

How much of the dissolved reactive phosphorus could be from faecal run off?
Anna: It is quite cosmopolitan in its distribution. So it is coming out of around the southern areas we are seeing it out of the Prebensen saltwater creek by that Prebensen/Mitre 10 area - very high loads there.

We are assuming that it is all from sediment and …..
Anna: No – with DRP we are not. A key thing to remember is that mitigations for total phosphorus reductions and DRP reductions are quite different.

What would be useful is your best estimate about what phosphorus and nitrogen loads were coming through from urban environment and rural environment. I think you might have said earlier that more work is to be done, but you must have got a bit of a feel as to where it comes from.
Anna: I don't know if I have a feel for the actual loads, because of those issues that we have talked about before. We can't point a finger at a particular source, either within the rural or urban landscape. There are a lot of highs all around the estuary, including phosphorus in the urban landscape, although there's not quite so much urban nitrogen. High phosphorus all around the estuary might result from some natural forms based on the geology of the area.

To what extent do urban sewage systems extend out past the city boundaries (including phosphate from septic tanks systems)
Anna: Predominantly I think you would be talking about the Poraiti area and possibly Meeanee, Jervoistown area.
A member: Meeanee, Bay View, Poraiti are largely un-sewered but 97% or 95% of the town is sewered,
Anna: Septic tanks could potentially be cross contaminating stormwater. The thing that I struggle with is the amount…. It would have to be a lot of them causing the problem because the amount of waterway between some of those areas. I would not expect so much from Poraiti but certainly the risk from the Meeanee area getting to the estuary is quite high. You would expect quite a lot of transformation within that area. We are planning on source tracking the urban contributions including longitudinal surveys to figure it out a bit more. We can't manage these things if we don't know the sources.

A need also to consider un-sewered townships where there is urban spread dependent on septic tanks. We need to determine what effect that is having on the waterways and distinguish that from rural sources.
Anna: Yes. HBRC has very good wastewater guidelines plans and policies, (updated recently). They account for land form, density of housing, soil infiltration rates and assigns levels of risk which determines whether a consent is needed. In terms of that development I am relatively comfortable with policy and plans that they have in place. Probably the one thing that may need attention is developing the same cohesiveness for stormwater retention and detention on site for those urban developments, including in relation to sediment mitigation with new subdivision.
Craig Thew: For the HDC urban fringe where the sewage system stops includes quite a lot of our area (such as Maraekakaho, Te Awanga, Haumoana) which are largely on septic tanks. The Waipatu settlement is also largely

on septic tanks, but work is underway with that community to establish reticulated sewerage. At a previous meeting I mentioned some concerns at Fernhill with the Omahu settlement drinking and wastewater systems
From a wider perspective Councils now carry out sanitary surveys including both health and environmental assessments looking at both drinking water and sewerage. The plan is to do those across all of those rural townships. .
He noted the historic approach by the district council focussed more on environmental assessments and that building in health assessments created more tension. Some communities will be engaged in discussions about their need to move to a more systemised approach to wastewater treatment than has been in the past including the costs associated with this.
On the stormwater issue; The HDC is seeking better SW management through the current SW management plan and bylaws. The biggest challenge is closing the gap between regional and district plans requirements and preventing developers from taking advantage of this.

The need to consider the impacts and costs of change on rural Maori communities as development intensifies around them was mentioned.
Mary-Anne: the social and cultural assessment would possibly cover some of this aspect and so will the discussion yet to come on priority end uses.

There were quite a number of questions about the nutrient state of the freshwater and the state of the estuary since it seemed some freshwaters had good levels dissolved nitrogen. More information about nitrogen sources was sought including proportions coming from different areas.
Anna: Some of the freshwaters entering the Waitangi estuary met freshwater guidelines for nitrogen. However, compared to the estuarine guidelines there is a problem in the estuary. An reduction in nutrients is needed not for the benefit of the freshwater but for the benefit of the estuary.
She noted that we are not talking about the ecosystem response we are purely talking about the guideline numbers.
Anna and Sandy explained that estuary health needs are complex and that in each of the aquatic environments the nutrient balances changed and the risk of algal blooms also changed. For example, algal blooms in freshwaters that tended to be phosphorus limited were very sensitive to phosphorous changes, estuary algal growth dynamics are much more variable and can be subject to either nutrient or phosphorus limitation. Coastal waters are predominantly nitrogen limited. So the requirements of the different ecosystems in relation to the nutrients levels that will promote things like algal blooms shifts.

Anna reminded everyone that this is not just about farming; the same challenges will apply to the urban sources three waters. Everyone who produces water or contaminants into the system will need to contribute to the solutions.

The source modelling can be used to help understand catchment sources. Even if we don't worry about the 30% at this point even if you make a decision as to whether a reduction in theory is proposed.
Sandy explained the differences between concentrations and loads and the significance of the location we measure in relation to the overall understanding about the environmental connections. A low concentration of dissolved nutrients might still result in a high total load where the flow was high.

How do the guidelines values being suggested relate to the NOF standards?
Anna: We are only using the freshwater ANZECC guidelines as a discussion point to understand a potential magnitude of change that might be needed to improve our estuaries. The NOF is regulating nitrate toxicity. What is presented are low risk trigger guidelines at which we are fairly confident that no adverse effects would occur. The problem is that we just don't know how much higher we be go above these guidelines before issues start to occur.

An example is the (estuary) sediment quality guidelines; if you are under the low guideline there is low chance of adverse effects, between the low and high, there may be occasional adverse effects, and above the high there will be frequent adverse effects. These sediment guidelines are based on known interaction between a species that lives there a contaminant % or concentration versus those low risk trigger guidelines that are based on how confident can we be that we won't have an issue.

Do we happen to know what in the last 10 years has changed?

Anna described some theories;

Sediment comes from pretty much anything that doesn't have cover so any land disturbance activities contribute

There has been a change in pine forestry in the upper Ahuriri catchment since 2005 with a reduction in area

The other is in relation to urban development and policy around SW management. This has led to open development sites not protected from runoff during rain

She considered them to be "low hanging fruit" in terms of mitigation measures and noted that guidelines such as the TP10 guidelines in Auckland for SW control require specific sediment mitigation, including timing, vegetation cover, artificial covers sediment ponds and fences and good retention and detention of stormwater. She noted that the local authorities and HBRC have got a very good collaborative workstream going on looking at how we can better achieve that.

The original decisions to be made was based on the following recommendation

Reduce freshwater contamination inputs to estuary by recommended %

- Adopt proposed estuarine WQ triggers
- % reductions based on freshwater input compared to ANZECC guidelines.

The following discussion took place and a new recommendation follows.

Questions asked about the implications of this decision, what a choice would require or mean for the community and what the status of this outcome would be.

Anna: They can't be anything but aspirational. This is because it is not an ecosystem response based guideline it is guidelines based on statistical distributions which is all we can do at this point. But by making some reductions we can then measure how close to or how far away we are going to be. And I do agree it is hard to be able to say without knowing what the solution might have to be such as revert 99% of that catchment to native forest. We are looking for an agreement in principle.

Mary-Anne: In order understand the impacts on communities, we need to remember what the relationships are;

For total phosphate we know that is connected with sediment and we have already got a work stream underway looking at reducing sediment losses by 30%

We know a fair bit about the mitigation measures that are necessary to achieve sediment losses. So we are about to get some economic information that tells us how much would it cost to adopt those mitigation measures.

We have more challenge around understanding nitrogen mitigation measures and those related to dissolved phosphate. We have some modelling results still to come (Sandy will go over more detail from the source modelling.) We will also have more detail around the losses from some land uses on the plains with our SPASMO modelling. So once we can put all of that together we can start working on where is it coming from and what are the mitigation opportunities, that are available to us.

We know quite a bit of mitigation technologies for some land uses and I suspect there are some land uses where we might need to do some more research working with industry group to understand where nutrient mitigation opportunities are available. We can use the modelling to see what kind of impact that has on those total loads.

This work from Anna is part of illustrating the connection between freshwater and the estuary and to help us understand what the nutrient loads challenges are particularly. Sandy will explain it is very difficult to set nutrient concentration in some of those lowland streams because of the complexities around macrophyte growth and the dynamics within those freshwater systems.

The benefit of people deciding today about the reductions is to start working out how big the problem is.

Anna: In the next five years, we are probably going to get some quite big improvements around things like the stormwater being stopped from being a direct discharge. NCC have also been referring to waterway treatments all up the freshwater system. In some areas if there is high dissolved reactive phosphorus they may look at active mitigation. So I think we will start to see some large reductions in quite a short period of time if these plans are go ahead.

In the context of a 10 year plan, would we be achieving the 30% target in 10 years in your judgement ….?

Anna: It comes back to what do we need to do and how much is it going to cost. If it is going to cost a considerable amount to meet this sort of reduction, then we may need to revisit the numbers and revisit the feasibility but to me

the biggest decision that would need to be made is there enough evidence that there is an issue in the estuaries to warrant a reduction.
I have tried to give you some understanding of scale of reduction might be necessary because we could be talking about 2 or 5% and I am suggesting we probably need to be focussing a bit higher than that. I am certainly not going to say that 30% is a number at which our values are all going to be achieved in 10 years. That is an absolutely unknown. But that is why I am fairly comfortable with an adaptive approach; when it comes to understanding the modelling and what would need to happen to try and achieve a reduction how feasible that is and where we come back to.

In summarising; why we need to do something is because our estuaries are in a bad state. What we need to do is reduce the amount of nutrients. The question being asked is what is a reasonable target to aim for so that we can work out what needs to be done to achieve this and the likely costs.
We could model a range of outcomes; *a range of between 10 and 50% perhaps.*

We have just drawn a line in the sand about where we should go?.
Anna: Absolutely. I am certainly not saying that in 10 years our problems will be solved and it will all be good. Because there are so many unknowns and uncertainties, it does come back to a pragmatic approach by saying hey it is too much; it is the magnitude or scale what too much is that is hard to measure. I have provided you with an idea of the scale of reduction necessary at 2 or 3% we are not going to achieve very much very quickly at all. Costs of reductions are important in relation to the timeframes.

Clarification that we are talking about managing the land and freshwaters to achieve a 30% reduction as measured in the lowland streams - the closest point of the freshwater to the estuary. If there are some streams that have very high levels and some streams that have low levels, we saying that we are aiming for a net impact 30% reduction.
Anna: Absolutely; you have got that spot on. The estuary is a cumulative receiving environment so if you can make a good reduction in one place that offsets a reduction in a place that isn't so high, that's fine. Because it is not about that water body it is about the gross load going into the estuary.

Options for decision;
1. Do you agree nutrient loads to the estuaries need
    a. Maintained
    b. Improved
2. If b, by how much (to be further modelled)
    a. As recommended
    b. +/- 10%
    c. +/-20%
    d. Other

Mary-Anne; These reductions are targets not standards and should be considered aspirational in light of Anna's presentation.
Anna's recommendation is about nutrients. We have already got some direction around a target of 10 to 30% reduction in sediment, which is reflected in Anna's slides but not as a separate recommendation.
Robyn; We agreed to explore a 30% reduction in sediment load, we didn't say that has to be on your farm. The EAWG and Farmer Reference Group looked at where the problems are and where are we going to achieve that 30% target. This is a similar question. The impact of the reduction target can be tested over a range of management options.

James; The first decision is either no further increase in nutrients or a reduction.
I am just not sure if it was clearly enough articulated before, but standards work in relation to point source discharges so you can set a standard for emissions from a pipe for a consent and say you shalt not be an emission of x or y. It is highly problematic to have a standard in relation to a whole catchment with thousands of variables that contribute to that and therefore when we are talking about targets they become the things that the Regional Council has to ensure get managed too.

And ultimately the RC is accountable as to whether those targets are met. Then there are decisions as to how targets can be pursued which might be property people involves restrictions and allocations and all the rest of the possible measures.
But it is very difficult to identify definitively the contribution for every property. Theoretically, if you want to take a potentially very legalistic approach; if the nutrient load is 811 tonnes work out a pro-rata system to allocate that on a land use basis across every different land use. What happens in practice is a whole bunch of scientific uncertainties about where sources are actually coming from and how do we allocate within a certain range. It is quite different when we manage a catchment as opposed to managing a point source.
We are talking about managing a catchment. Not a point source.

In response to whether there is a decreasing quality trend in the estuary;
Anna: the estuary certainly won't get any better and may deteriorate further if upstream freshwater sources are left as they are.

However: It is not only the upstream water sources, we have heard this morning, there are lots of other variable.
1. Do you agree nutrient loads to the estuaries need
    a. Maintained
    b. Improved

Agreed that things must be improved. By how much (to be further modelled) a. As recommended (based on Anna's Figures) b. +/- 10% c. +/-20% **d.** Other	
Vote 1 a. 11 b. 7 c. 2	**Vote 2** a. 9 ~~b.~~ c. 12
Final agreement Agreed to go with c. +/-30%	

A concern about the impact of this sort of approach for the Waitangi and the new focus on both the nitrogen and phosphorus.
If we adopt a 30% target for both it will driving a different direction to farmers. Previously we thought about the Ngaruroro as being essentially firstly about sediment and secondly about phosphorus. I am concerned that we need a 30% number on nitrogen will drive us to be thinking about it as a nitrogen problem. My proposition is reducing that figure down to 20% and recognising that sources are variable and disproportionately out of the Karamu. . We then talked about modelling +/- 20% of those because +/- 10% might not be enough change, to imprecise a system in the first place.
Reduce the targets to 20% rather than 30%; affecting that is going to then leave the current decisions for the direction we have got the Ngaruroro particularly in relation to the farmer reference group. But there is still the ability to target improvements. The nutrient reduction could be more focussed on the Karamu.
Anna: If you have a look at the magnitude of the reduction required that's a sensible idea. The nutrient reductions required for Ahuriri (95 and 86) are higher than for the Waitangi (50 and 46) so a 20% reduction is still going to be a lot better. Sandy's presentation may help with some of these as well.

d. 9
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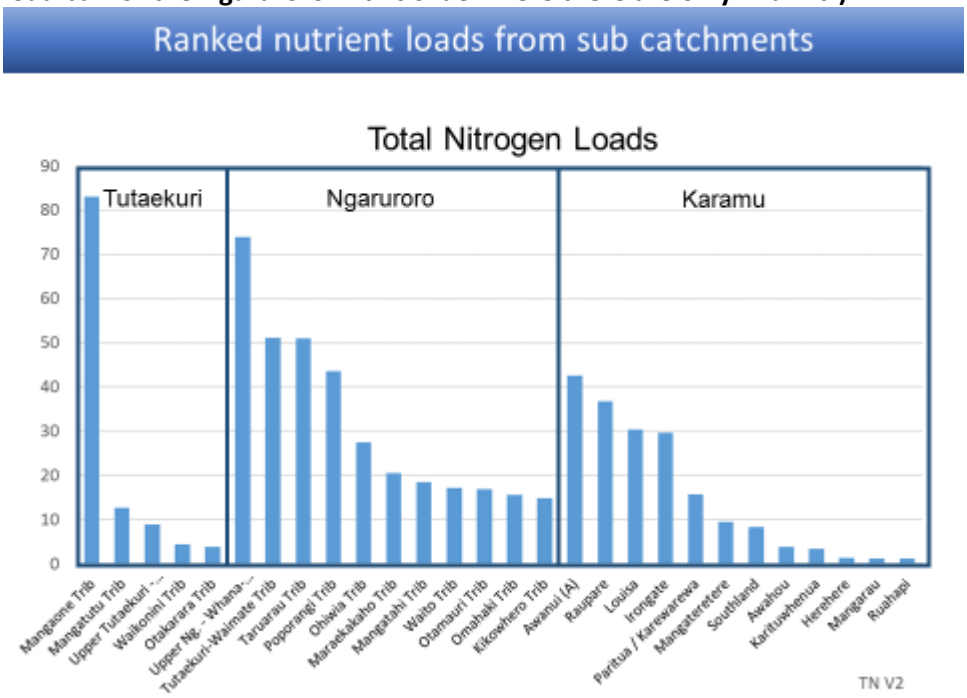
6. Item # 4 –- Desired attribute state - Sandy Haidekker

Sandy summarised her presentation

A query about the size of the contributing areas and the loads arising from them.
Sandy: The next thing that we will have to think about is the scale at which we manage. Are we talking about a blanket approach – when we calculate at a per hectare scale. Or do we have to look at farm scale critical source areas.

Several TANK members commented on how difficult it was to decide. Not having all the details about sources was a particular concern as was how potential measures might be imposed (reference especially to the first N load bar for the Ngarururo in this slide where there are only 4 farms.)



Mary-Anne: You have agreed there a problem in relation to the estuary and that we will model some mitigations for the target reductions - then we look at what that costs and how we can reach it. And then agree whether or not it is achievable. What are we modelling is to help you then decide what is achievable and the desired timeframes. One of the big challenges is we actually don't have all of the information. We do understand relationships, we have some modelling and we have some actual data but not all the necessary information. Some of the gaps are still to be filled. Decisions in the absence of all the information will still be required.

There was an observation that whether or not it is a or c is largely irrelevant and that the agreement has been reached that we need to do something. A start is provided by the recommendation for 30%. The modelling results for 10 – 30% provide a scale for easy to difficult levels of response. We just want something roughly in the middle. It is most important that we recognise that it we have got to do something different - lets go and work out what it is going to take.

Sandy's presentation from the beginning.
Proposal
We will use water management zones to establish the desired attribute state for similar river types that reflect the identified values.

Questions to clarify included:

What does maintain current >100 mean?

Sandy: It is the MCI score, it is the index we want to be above 100 of MCI score.

For The lowland tributary streams is the MCI score based on the modified MCI for saltwater.

Sandy: Yes - in the data that I have got it doesn't make a difference. But you can definitely be specific about that in the plan and it makes sense to use that.

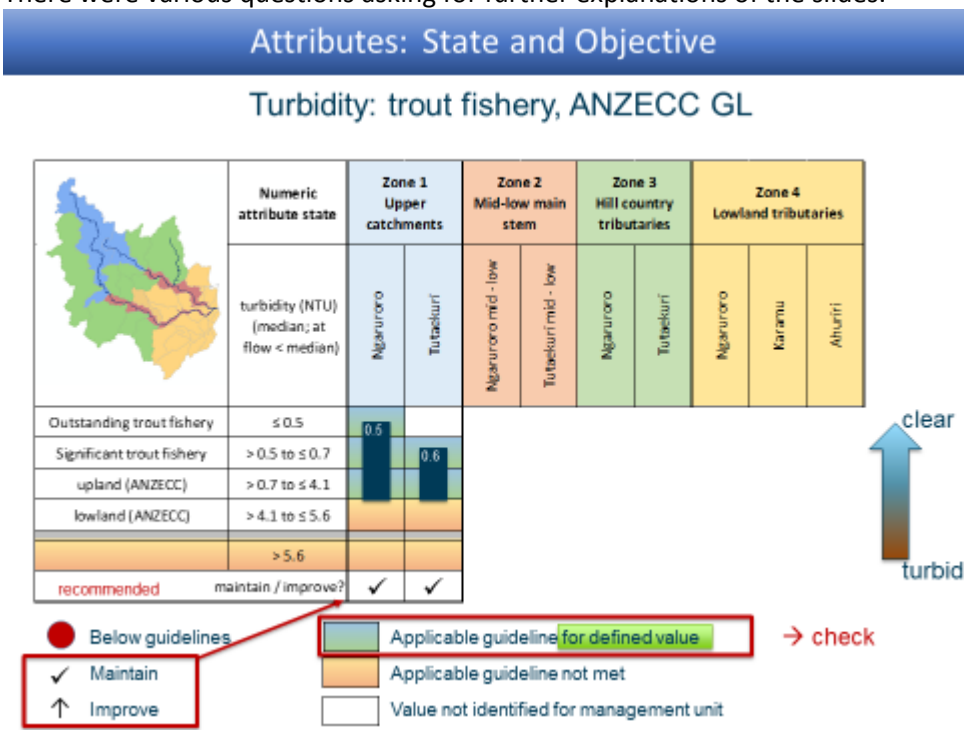
Where you have got improve by <30% you are suggesting that that particular thing needs to be improved by 30%.

Sandy: This refers to the percent algal cover and the objective is to make sure it is less than 30%. Also, with all of these sites we are very limited in terms of how much we can show on this table. We are providing data for the main stem or tributaries that we have longer term data for and have added sites where we only have data for two years. We are not quite as confident for those sites as with the 20 years data that we have for the other sites.

It is a bit of a mixed bag and when it comes to management of sites and understanding where we have a problem with algal growth or not. The model helps us to fill in the gaps where we don't have actual data.

If we don't have data for a tributary but nutrient concentrations are modelled to be high, the risk of algal growth will be quite high there. The model helps fill in the gaps for all of the management zones. That is why I am lumping them together in zones and make use of the limited sites for actual information. We want to look into how to manage similar systems.

Sandy explained the attributes and how the slides needed to be interpreted.
There were various questions asking for further explanations of the slides.



Can you comparing information for the upper Ngaruroro*? Sandy: We don't have any algae data for there - it is the NIWA site and algae is not monitored by NIWA who just measure the chemical parameters and MCI. Whanwhana is our first set of data that includes algae.*

Questions were asked about algal growth including

observing that nutrients are not supposed to be a problem in the Ngaruroro River and yet there appears to be an algal problem.

the role of temperature.

Whether the same triggers are used in the mainstem and the tributaries

Whether there is the same problem with benthic cyanobacteria in the Tutaekuri and Ngaruroro as in the Tutaekuri – is there high algal cover up there and do we need an objective for that?

Nutrients

Sandy: The main cause for the relationship between algae and nutrients not being so clear is that the guidelines for nutrients were made for across NZ while on the East Coast there are very prolonged dry periods where flow doesn't get refreshed. It means algae has very long growth periods. Algae can grow for a while even with low nutrients. However because of the weather in HB they keep growing for longer and then they hit the bloom threshold although the nutrients are low. If we want to reduce algal growth, we would actually have to lower the nitrogen concentration guidelines to account for the long periods where the river is not refreshed to flush out the algae.

Growth periods

The long growth period will be the same in the tributaries as in the mainstem because the flushing flows with the same rainfall events deliver the same long growth periods. The triggers for algal growth are also different depending on the gravel size as well. If you have got large gravel you need a stronger flow to turn it over and actually wash them off, with small gravel in other tributaries it just needs a little bit of rain and it turns over.
Algal cover is actually very very low in the upper Tutaekuri, you never have algae there.

Temperature

Temperature and flow are interrelated – but we don't have a single correlation between one and the other.
Cyanobacteria

Sandy: I did present the phormidium cover for the TANK catchments already. It is very sporadic and there is not quite as much of a problem with cyanobacteria in the TANK rivers as in the Tukituki. We do see them and we do have blooms once in a while. I don't think we can develop "an objective" as such because I do not know how to manage it. It would need to be addressed in policy. I don't really know because at the moment we are still grappling with what makes them grow faster at times and become toxic. Sometimes they are not even toxic. We are still in the science of trying to find out what they need for growth and what the management would be. We should keep an eye on it definitely and we do monitor it.

Anna: We have the draft cyanobacteria guidelines that were developed by the Cawthron Institute for MfE as part of contact recreation programme that will apply.
It is not monitored as regularly as for the Tukituki where it is more predictable, however we will get it occasionally in the Tutaekuri in stony bottom streams. We monitor when there is a problem identified and provide advice in terms of its distribution or coverage in line with guidelines to public health.

Cyanobacteria has no real correlation between public health risk or dog health risk and the % cover. In Wellington and Lower Hutt, (it was found that) 5grams of the algal mass, when it produces toxins, is enough to kill a medium sized dog. However the draft guidelines is about 20% coverage and that's based on the relationship between the more algae you have the more likely there is to be a problem.

There are huge scientific challenges around Cyanobacteria and health risk predominantly around the fact that we have no idea when is going to turn toxic, there can be mats where part of that mat is producing toxins and other parts not. So we are using the best approaches that NZ currently has and we are trying to understand the prevalence, predictability and coverage in other areas as well.

There was previously mention that some sediment and nutrients might be washing back up from the Ngaruroro River.

Sandy: There are six monitored sites from the Karamu altogether with the lowest one is in the Clive and the other ones are in tributaries Rewarewa and Poukawa so the Karamu contributions are not influenced by the Ngaruroro flows.

Do you agree with Sandy's recommendations:

Agreement by all but one person.

Summary on desired states

Attribute	Value/guideline	Zone 1 Upper catchments		Zone 2 Mid-low main stem		Zone 3 Hill country tributaries		Zone 4 Lowland tributaries		
		Ngaruroro	Tutaekuri	Ngaruroro mid - low	Tutaekuri mid - low	Ngaruroro	Tutaekuri	Ngaruroro	Karamu	Ahuriri
Sediment - turbidity	Trout fishery ANZECC	maintain current	maintain current	maintain current	maintain current	maintain current	maintain current	maintain current	maintain current	improve ≤5.6 NTU
Sediment - clarity	Trout fishery recreation	maintain current	maintain current	maintain current	maintain current	maintain current	maintain current	improve >1.6 m	improve >1.6 m	improve >1.6 m
Deposited sediment	Waitangi/Ahuriri estuaries	maintain current	maintain current	improve	improve	improve	improve	improve	improve	improve
Algae - cover	Ecosystem health	maintain current	maintain current	maintain current	maintain current	improve ≤40%	maintain ≤40%	n/a	n/a	n/a
Algae - cover	Recreation	maintain current	maintain current	improve <30%	improve <30%	improve <30%	improve <30%	n/a	n/a	n/a
Macrophyte volume	Ecosystem health	maintain current	maintain current	n/a	n/a	improve ≤50%	n/a	improve ≤50%	improve ≤50%	improve ≤50%
MCI	Ecosystem health	maintain current	maintain current	maintain current >100	maintain current >100	maintain current	maintain current	maintain current >80	improve ≥80	improve ≥80
DIN	Algal growth/ estuary	maintain current	maintain current	maintain current	maintain current	improve <0.295 mg/L	improve <0.295 mg/L	improve <0.444 mg/L	improve <0.444 mg/L	improve <0.444 mg/L
DRP	Algal growth/ estuary	maintain current	maintain current	maintain current	maintain current	maintain current	improve <0.0.15 mg/L	improve <0.0.15 mg/L	improve <0.0.15 mg/L	improve <0.0.15 mg/L

The Maraekakoho has influenced the algae and the macrophyte objectives in the hill country zone three. I think a couple of lower readings for the lower Tutaekuri the MCI doesn't warrant over-reacting for all tributaries. The measures that we are going to put in for sediment throughout the catchment should pick out those differences.
Mary-Anne: The slide shows the state that we want all those hill country tributaries to be in. We know from some of the actual monitoring and possibly through the modelling that some of them are already meeting these states, but not all of them. We want to know if you agree that the rivers in each of the zones should meet the state given in the slide.

If the problem is only in one tributary not the rest and we elect to improve we just target our resources at that one tributary.
Sandy: The problem is that we only have a very limited set of sites where we monitor compared to all the tributaries. The site may not be totally representative of the whole sub catchment either. So the modelling data is actually a flag to say "this is too much - where are the other similar catchments?" We can't really put up a flag for the whole zone just because one is not complying.

What is the implication of voting to improve the quality of those tributaries even though it may only be one stream. What does that mean?
Mary-Anne: We are not voting to improve the quality of only one stream we are saying that these are the states that we aim for in all those water bodies in that zone. We know that at least one of them doesn't meet that state from actual monitoring. Our modelling might indicate that more of them also may not meet that state - we are not quite sure about that as we don't have that detailed monitoring data.

All agreed that we support the desired state.

DIN dissolved inorganic nitrogen. **NNN** means no ammonia. Not total nitrogen. Estuaries usually have very limited amount of ammonia or nitrate.

Phormidium

Some TANK members are still a little uncomfortable about having nothing around phormidium. From a human health point of view the risks from phormidium are quite important as it is not just about dog deaths.
Understanding from the work that was done from the Tukituki related to the ratio of N to P.
If you reduce the nitrogen in relation to the phosphorus you are increasing the risk of phormidium. If we were putting in place a regime that was actually going to make phormidium worse then I would have a problem with it.
Sandy: Phormidium grows only when you have very low phosphorus levels and high nitrogen levels. We have a very balanced state at the moment. It is a bit hard to trade off because you may end up with a lot more algal

growth in general if you manage for phormidium. You shift the problem but the you have got less toxicity risk. You may not do anything for the estuary. It is really a tricky thing.

Can we have some provision in there that if the impacts were having an increased risk of phormidium them there could be a review?

Anna; We already have new guidelines, but under investigation currently are the triggers at which it becomes toxic. The key thing is that phormidium research is a nationwide priority and it certainly isn't something that could be tackled individually at HBRC. There are two acknowledged NZ experts that we rely on heavily for information. We will continue to look out for any developments that will help us to understand it; particularly the nutrient ratios.

I think probably the best thing we can do at this point is continue how we have been, which is trying to understand the levels. The other relevant considerations with phormidium are the flow regime, the sunlight hours and nutrients- it is a combination of all those things.

The only thing I would caution it is an area of developing science nationwide and just not to put ourselves in a position where we are trying to do the job of NZ.

Agreed that a policy about phormidium management was required. There was support for provisions in the plan for more research and monitoring and better understanding the risks posed by phormidium and to take a precautionary approach including in relation to the possibility of making phormidium risk higher such as by changing the N to P ratio.

7. Item # 5 – Understanding nutrient sources – Sandy Haidekker

A number of questions followed about the modelling results.

We need a lot more information about sources of nutrients and mitigation opportunities before we know what we can do about nutrient management.

What about the extrapolation of the (limited) tile drain information data?

Is there flow data from the tile drains?

Sandy: We don't yet have all the modelling information and more is yet to come.

The tile drain information is not extrapolated but refers to a specific area where management might be different to others including for dissolved phosphorous. We can expect to lower phosphorus levels if we do any sediment mitigation in other catchments.

Tile drains and the nutrients that come out of them depend on the rainfall events, on the season, in the fertiliser application, land use and on the soil type. It is impossible to measure everything so we have to rely on models. There was a small targeted study on the tile drains to provide additional understanding about whether an issue exists with tile drains. It indicates nutrients follow quite different pathways to water and may need different mitigation measures.

Mary-Anne: There is a project underway to understand those peat soils better

There is some flow data but it is very approximate and data not available for this meeting.

8. Item # 7 – Learning from PC6 – process and the plan. The Tukituki experience – Nathan Heath

Nathan provided some implementation lessons and experiences from Tukituki Plan Change 6.

Implementation is a coordination of a network of actors and actions that work with people in landscapes, to affect change that leads to desired community out comes, in a dynamic and changing environment.

There are no silver bullets, and no blanket solutions.

Did you attempt doing a gross nutrient budget?.

Nathan: Overseer is not good at estimating all of the P losses as it doesn't account storm driven losses, which is the majority of the P loss.

We have more work to do to understand dissolved P.

What will happen when target dates are past and FEMP have not been done.

Nathan: We are just finalising the approach for to Council approval. You can't have the first key deadline in the first of your plans being interpreted to mean "that all right we will give them another couple of years".

The thing that is really frustrating is the four month waiting list to do a FEMP. We effectively can't complete what we need to complete because of capacity issues.

A TANK member commented on the changing face of New Zealand agriculture. There is a very definite aging demographic and a very definite change in succession. There is a movement toward corporate agriculture, and where a farm is not being transferred within a family, farm owners have little interest because they are the last person on that farm. I see that as a real issue.
Nathan: Absolutely agree.

Another member commented on Nathan's reference to common purpose and that is enlisting the focus and goodwill of the communities, and how that is probably the biggest challenge we have. They made a plea that we think in a very holistic way about plan changes that we are putting together. We spend so much time on detail but actually what is far more important, in my view that we have an integrated package.
It is clear that TANK is (trying to) deliver to the community something that is a sensible cohesive and inspirational, I think we have built up TANK as a very important body of work. That has created an opportunity for us to deliver something spectacularly good in terms of the vision and an integrated package which sets a direction for an improvement in catchments, I would argue that it is far more important that we do that and set the direction and set the motivation than actually the detail. Because it is about enlisting the goodwill of the people that is what gets the results not coming up with a set of rules.
Nathan: We have had to spend two years probably back tracking, creating connections between what the purpose of the plan is and why, trying to get people on board. Finding a sense of purpose. In an ideal world you would first work out what the solution was and you would have a thousand conversations about that and only then work out how the policy and the rules and regulations give effect to that.

There was some general conversation about the mix of community inspired and led solutions based on shared values and outcomes and regulation.
It was generally agreed that we are trying to achieve a cultural change in the wider community. But we also need a stick in the bottom drawer. Just working on people's good will is not enough. Part of the mix is having consequences of not changing.
Nathan: It is all about conversation and dialogue but you need to have that regulatory fall back. People ask for it, farmers ask for it. It supports the effort and investment to make a change on the farm and to make sure everyone is treated fairly.. Implementation is not about writing regulations, it is about getting the job done.

Is the lack of rapid uptake in Tukituki a consequence of not having the RWSS to incentivise farmers
Nathan: There were about 200 that might have been done through that scheme and there are 900 still to do. WE are not getting a blanket refusal to do them. Just not enough people and staff to do the work.

I see you at the coalface which is great and it is very important for people to understand that we are not making a bit of paper that is going to go nowhere. Are you able to start give feedback as to what you are actually achieving?.
Nathan: We are getting Farm Plans done. We only have a small team and we focussed all our effort in the priority areas. I would suggest to you that if you talk to anyone of those people in that area they know what is required of them now. They know that they are in a priority area, they know that the reason there is a particular focus on them is that there is more to be done and they are still waiting for us to turn up. In the areas where we have been turning up the conversations are significantly easier. **Good news.** *Things are happening but they are not happening at a great rate of knots.*

Peter Kay thanked Nathan on behalf of the reference group. Not only has the group been going less than 12 months to get to the stage that we are at, we have been able to avoid a lot of the pitfalls with you being able to show us what was going on in PC6. It has been a really constructive journey so far. Thanks to you that that side of it we managed to keep on track and get as far as what we have got.

The use of models that incorporate mind, spirit, body and family were referenced, especially in relation to the social and cultural assessment work. Incorporating Matarangi Maori in our values and into the measures covered by Sandy's presentation would help with that . There was a little uncertainty about how it could be done or

whether there would be a need for a different monitoring programme but as long as Matauranga Maori and mahinga kai were incorporated as part of the measuring of change, or target as trying to improve.

9. Item 7 – Nutrient management approach(s) for achieving the agreed objectives. Mary-Anne Baker

Proposal: That the EAWG and industry bodies be asked to consider the menu of management options for reducing nutrient losses to the estuary and make recommendations to the tank group for their preferred approach.
Are you all okay with doing that.

The following summary records the subsequent discussion about the role and membership of the EAWG;

One of the TANK observers questioned whether the group should hand this work to the EAWG as it was something the wider community would like to be a part of. He stated that he want industry groups come back with the least onerous regimes and it seems like it is dangerously close to tilting the playing field. The observer noted a lack of trust in farmers' knowledge and ability to make meaningful contribution. There was concern that the finding of the solution needs to be the most shared part of the process. He further observed that if farmers were knowledgeable they would have intelligently foreseen the predicament that we are in today, and behaved differently. He expects that there will be pressures to overstate the economic cost of doing certain things, from a cost/benefit standpoint and that there needs to be voices checking that process. He noted that he has raised issues of other farming practices that ought to be considered as part of mitigation schemes, but felt the EAWG considered these too "on the fringe" and so rejected basically out of hand by folks who are pretty conventional in the way they look at what the situation is and what the options are that might be available to them.
He advocated some checks on this process and did not want to see a situation where a solution was put on the table for the wider group just to sign off on. He felt the TANK group might not get the best analysis of the options and that the most dangerous point in the process to risk losing confidence in what is going on.

There was considerable debate about the role of the EAWG and the membership of that group. There was some criticism as to how the relationship between the EAWG and the wider community was being referred to.

The general feeling, particularly of the EAWG members and other TANK members was that there was no evidence of an us/them relationship amongst group members and the members were committed to finding solutions that met the objectives being set by the wider TANK group. There was also nothing to suggest that the EAWG members were trying to undermine the setting of or reaching objectives set by the TANK group.
It was observed that at the end of the day it is the industry groups who are going to have to make the reduction and they should help to work out how to do it.

One member contributed that the collective approach value is that a group of farmers have more ideas about how to solve the problem within their catchment; so if they can understand what is happening in their sub-catchment they can say what the best option is. Allowing them to be involved in that process, will be a lot more powerful than just forcing a rule on them. Rules do not necessarily solve the problems in the individual sub catchments. There will also have to be bottom lines and we accept that. Everyone accepts that bottom line and specific targets will have to be reached. We are all working together and we all working in our individual areas to make improvements that TANK require. .

There was an observation that the group was not focussed on guiding work on an economic assessment but more about modelling different management systems rather than looking at the economic impact of the proposals we are generating as a TANK group.
Mary-Anne: Those wider economic assessments are still to come but we have to make sure that we are informing the economic modelling with accurate information and the only people to deliver that are landowners whose data we are using. It was a bit of a risk sending the Sediment problem out to pastoral farmers, and I am really impressed at how well they have taken on the challenge. There was initial reluctance to be involved at the beginning but then remarkable stepping up to acknowledging that they need to be involved in managing their impact on waterways. I don't see this challenge around nutrients as being any different, and it is actually more empowering to be part of

developing a solution for those industry groups than it for us to tell them what to do. They are the ones that know their farms and where the opportunities are and we need to use their expertise.

Alternative suggestions were sought.

One view was that other TANK people should be encouraged to join the group to broaden the representation on it. Because they are so deferential to what the farming community has to say about improving its own practices and if they have nothing to contribute I would still rather have them be there in the room hearing the discussion and satisfying themselves.

Further discussion about membership changes and the time commitments involved in being on several groups.

In particular one Nathan observed that Yes, we have sent a challenge to them and for the groups to propose solutions. He had no problem with a non-environmental person doing that, because they are the ones who will be implementing it. I also do not have a problem with industry coming back with solutions. More than happy to keep things moving along. They come back to this meeting and we either agree or disagree. I think that model seems to be working well. I am more than happy from my side of things to keep it moving along.

It was suggested that since finding solutions to these challenges really affects the farmer representatives more than 'the environmentalists', they make a special effort to attend. This was not agreed to as it suggested that farmers were not also interested in the environmental outcomes

One industry rep said he was sure that every grower and every farmer in the room look to be sustainable and that we don't want to ruin the land. We are going to take an attitude to try and make things better. But also in the back of our minds, it has to be economic. To assume that we are going to be thinking only of our pocket to the detriment of the environment is quite wrong.
Other members supported this observation. It was also noted that the all the sustainable dairy plans are going to done by May 31st 2018. That is not because of TANK demanded, that is actually because they want to do it. There might be some issues with details later on but dairy farmers are really willing and they are really, got a good attitude and momentum and this should not be crushed. They are already comparing how they can improve and making suggestions to one and another. They are coming up with good ideas

Nathan: It would help if those notes from those Working groups are circulated to everybody, that way if something comes up that we have a question about, we can just contact somebody who is assisting with those. That will keep our transparency amongst all. I am interested in implementation, how do we solve the problem, but I can't even make half the meetings that I am committed to already. It would be nice, a couple of pages, I can read it and if something comes up that is questionable then I can just call.

Meeting notes are put onto the portal

The challenge that looking at farming alternative systems was being ignored by the EAWG was revisited as possible evidence that the group is not as unbiased as you would hope.

TANK Observer; We are at a stage in this process where the rubber is going to meet the road in terms of what level of effort will the public perceive us to putting on people whether they are city planners who are dealing with stormwater or they are farmers to improve the ecosystem. And it is all wrapped up in are we trying to get a 30% reduction a 50% reduction are we trying to get it on 5 years or 50 years. He noted that he was happy to ask the difficult questions about the level of effort required and how outcomes might be achieved in suitable timeframes, but that it needed for all of the group to ensure robust consideration of alternatives and transparency in the decision making .

Mary-Anne: We need to know what kind of things that can be done (by land owners and industry) to reach the targets. We are looking to those people to identify measure the mitigation measures. We can then work out how much they cost and how effective they are. We can also consider the economic impact at a property scale and

what it looks like for the region. The wider group has to decide how fast it wants to meet the targets knowing the costs of mitigation measures and the possible management solutions.

A member commented that Nathan B described a good chunk of the solution we are reaching for with the sub groups. It is really to cover a lot of ground, and provided that they are not making decisions and the information that they are viewing is available to everybody then it is just a matter of efficiency and transparency about what the information the sub-groups are receiving and the discussions that they are having.

The non-industry TANK members on the EAWG including Marei, Nick, Mark and Tom (though sometimes they are not all present).

Vaughan was persuaded to join the group. And a proviso that the group presented options not recommendations was added. All papers and meeting notes continue to be circulated to the wider group.

All supported.

New Proposal:

a. Further modelling outputs considered by the existing EAWG.
b. EAWG adopts some other members

Revised Agreement

That the EAWG and industry bodies be asked to consider the menu of management options for reducing nutrient losses to the estuary.

Clarification about the group role; It is expected is to work out how they are going to make that reduction.
Mary-Anne: There was some direction this morning about looking at reductions of 10 to 50%. There will be a need for further modelling to work out where that is coming from and what the land uses are. We also look at the opportunities for meeting that 10 to 50% target and then we will cost them out and do some economic analysis of what they are. So that will help with assessing timeframes. They then come back to the group and say here are some options.

A question about modelling land use change in order to meet the 30% target (this was not meant in relation to threats and risks but alternative land use scenarios).
[Post meeting note; the sediment mitigation modelling is doing a costing of the land use change from pastoral land use to afforestation and land retirement which are mitigation measures necessary to meet the sediment loss target]
Mary-Anne: I imagine that would be one of the options that the group could go through. But we haven't developed a land use change management scenario for delivering the outcomes yet.
Verbal Updates.
Engagement Group.
Drew Broadley gave a quick update. New booklet – updated that. More available, also online. More on videos. Just about ready with a TANK overview video.
Series of four other videos, which will play after the overview video Ahuriri, Stormwater, Farmers/Growers, Healthy water ways, which picks up on riparian planting, shading, sediment and wraps with a whole lot of other issues. 5 Videos in total. I am really interested to see what you think once we get the first one out the door. A different approach from us. Anna the star of those videos. Please share as widely as you want.

EAWG
Mary-Anne: Meeting again on the 19th October, we will pick up where the last meeting left off with farmers proposal, starting to refine some of that detail we need to work through that one.

S/W
Rina Douglas spoke, wanting to allay any concerns that SW is not being taken along in the journey. She is in the process of using and building on the work of the working group that we have started last year identifying the issues and some of the positive solutions.

She has taken that to TLAs, the engineers, the people who actually are in charge of rolling out any new proposals with the tasks the group identified to see what is possible and what is not. So the good news is that we have had about three or four meetings, between myself, Anna, Hastings and Napier councils and have really picked apart the current rules, and looked at ways to improve things.

That has been really important because the Working Group needs something concrete to discuss. From there the SWWG will come back to the wider group and present some proposals including draft rules. She was really intent on making sure that whatever I bring to the working group is going to be of use and value, and it will be the best use of your time so we can put something up to the wider group that is going to be solid and robust. There are a lot of current projects underway that are being configured into the s/w process as well.

What would happen if all the s/w pumps failed? *Disaster. The only stream in Napier that operates without pumps is the Taipo, all the rest require pumps with generators in place. If we had a Tutaekuri breach at EIT the flooding of that would take a week to drain out.*

A TANK member sought reassurance that urban sources were being treated in the same way as rural sources. Is S/W going to contribute to those reductions in nutrients and sediment. *Rina and Craig. Yes absolutely. That is the goal.*
Craig Thew: There are some complexities and quite a few variations. There isn't a simple separation between urban and farm land. For example the HDC stormwater consent catchment plan covers different catchments with different issues, for example the stormwater that flows into the Irongate Stream has lots of zinc, largely from roof run-off. We have thought of creating a subsidy scheme to rip off all the old zinc roofs and replacement them. Irongate stormwater is low in nitrogen and it has a dilution effect; below the town stormwater we have a lower nitrogen than the s/w input. We don't get that same effect say in Wellwood Road or Ruahapia because it is different land use, so it is complex.
The Council is being talked through this in the long term plan process which is a ten year view. There is money going into the plan in future years to make a difference. There are also new plan rules and we have now more ways to control it and this plan change will give us more control. Any industrial plan just like a farm plan has to have a stormwater management plan for an industrial business. So very similar things are planning out in that space.
Rina: I think attitudes are changing and I think there is an acceptance of changing roles.

It seems like stormwater controls are being more rigid, whereas maybe in the modern urban areas would it be a fair thing to suggest there needs to be flexibility?

RINA We aren't overlooking the wider framework in issues and objectives but I think where I am coming from is that the rules in place at the moment are deficient and need tightening up. Striking the right balance. Transparency.

Wetlands Group. Meeting next week.
It was reported that a meeting was to be held next week. As part of future topics he sought some information on alternative water supply/storage options. He mentioned the Otamauri stream, the increase in the Te Tua storage, the Maraekakaho lake etc and there might be others.

The Augmentation WG did cover some of that there was just a bit of frustration Looking at all possibilities. Wetlands are being looked at as a mitigation option. This is obviously created a lot more work but there have been some good ideas come out.

An invitation to meet with the Farmers Reference Group at Kereru 3rd week of November.
Would people be willing to support a field days with the farmers, this would be the last get together of the year. No specific date yet. Following the TANK meeting on 22 November. [post meeting note; the field day was on the 29th November and very well attended by TANK and landowners. Separate report from the day now available]

Mana Whenua

Member: The MWG met yesterday to follow up on action points. A couple of issues, particularly around the Tutaekuri Management Plan were discussed, I read the minutes and I think it was good to hear the feedback from the farmers meeting.

Part of the focus of the F&G meeting was to look at any similarities, so I take from what you did, (TANK member) that it was highly beneficial to have that face to face conversation with an audience. I am just putting that back out there as well, because I think we need to get back into the practice of doing a bit more of that.

Some of the values and attributes are similar but some are going to be from Matauranga Māori ; it is all about the legacy and what we are looking for in terms of realistic goals.
Another thing discussed was about the relationship/information tree; under my watch along with other people who are around this table we report back to two groups of committees, made up of Maori marae interests within the whole of the Ngaruroro particularly and also land trusts. I am also Federation of Maori authorities representative. I get that Korero, I take it to both these two meetings and we put newsletters out with this information.

We are also doing an independent review of the PC to ensure that it lines up, this is at our own cost, certainly not to derail the process but to ensure that our particular issues are incorporated into the final plan change.

How is the Mana Whenua feeling about the process of stage 2 of WCO. *I think we have got mixed views. In my role for the Taiwhenua/Iwi organisation we took a neutral stance on it and were like the meat in the sandwich.*

Is there time to do all the consultation that you need to do for us to finish by May next year?
You know I've already undertaken 21 Wanunga in the last 12 months and it really is a big programme coming up. Carrying on with that and particularly with the hearing starting very shortly is a big challenge.

Dates for next year. Circulate by email.

Nathan reminded the group that the RMA requires us to look into the future for future generations.

The closing Karakia was said together.

Give thanks for all of those feelings and the fact that we have somehow been able to hold these different emotions as we go about out deliberations. Give thanks that today we have been respectful to each other and we have listened well and we have debated robustly, we haven't always got what we wanted but none the less we have made great progress and will be here to do it again next week. Thanks to everybody.

Meeting 18th October will go ahead.

The meeting closed at 4.35pm.

Summary of Action Points

ID	Action item
33.1	