



## Collaborative Stakeholder Group (CSG) Workshop 5 Notes

**(Day one) 14 August 2014, The Link, 6 Te Aroha Street, Hamilton 9.15am – 6.30pm**

### Attendees:

CSG: Alan Fleming (Env/NGO), Chris Keenan – part (Horticulture), Garry Maskill (Water supply takes), George Moss (Dairy), Gwyneth Verkerk (Community), James Bailey (Sheep and Beef), Matt Makgill (Community), Patricia Fordyce (Forestry), Phil Journeaux (Rural Professionals), Rick Pridmore (Dairy), Ruth Bartlett (Industry), Stephen Colson (Energy), James Houghton (Rural Advocacy), Tim Harty- part (Local Government Delegate), Evelyn Forrest (Community), Weo Maag –part (Māori Interests), Jason Sebastian (Community), Alastair Calder (Tourism and Recreation), Gina Rangī (Māori Interests), Alamoti Te Pou (Māori Interests), Michelle Archer (Env/NGO), Liz Stolwyk (Community), Dave Campbell (Delegate Env/NGO), Charlotte Rutherford (Delegate – Dairy)

TLG: Dr Bryce Cooper (Chair), Dr Liz Wedderburn

Other: Bill Wasley (Independent Chair), Helen Ritchie (Facilitator), Jo Bromley (WRC), Janine Hayward (WRC), Will Collin (WRC), Vicki Carruthers (WRC), Jackie Fitchman (WRC),

Other staff (part): Justine Young (WRC), Emma Reed (WRC), Ruth Lourey (WRC),

### Apologies:

CSG: Sally Davis (Local Government, Delegate Tim Harty to attend), Hone Turner (Community), Brian Hanna (Community), Gayle Leaf (Community),

Other: Wendy Boyce (WRC)

Item	Description	Action
9.25am	Workshop commenced at 9.25am with a Waiata.  Apologies from Sally Davis (Local Govt), Hone Turner (Community), Brian Hanna (Community), Chris Keenan – part (Horticulture), Weo Maag –part (Māori Interests) and Gayle Leaf (Community). Delegates in attendance: Dave Campbell (Env/NGO)	
9.30am	<b><u>Technical Primer Session – Dr Liz Wedderburn and Dr Bryce Cooper, Technical Leaders Group (TLG)</u></b>	

Dr Bryce Cooper noted the purpose of this morning is a technical primer to address some of the questions that have been raised by the CSG. By the end of the session members should have a good understanding of how contaminants travel from the land into the water and some of the interventions that are available to mitigate these contaminants.

Three main areas for today's presentation:

1. Sources, pathways and variability
2. Targeting interventions
3. Whatawhata case study

There are three main issues that affect water quality:

1. Suspended sediments - material that smothers the beds of rivers and streams
2. Nutrients - encourage algal blooms
3. Faecal microbes – affect animal and human health

Nutrient cycling is a natural process.

### **Sources**

#### *Nitrogen (N)*

Animal urine is the major source of N loss. Only 3% comes from point sources.

#### *Phosphorus (P)*

Fertiliser is the main input of P to the soil. P attaches itself to soil. P is applied to help clover grow. Most P comes from dairy and other pasture. Seven % comes from point sources. Erosion is an important source of P.

Nutrients. N and P – affects plant growth, can see

#### *Faecal microbes*

Include viruses, bacteria and protozoa.

### **Pathways**

Water is the driving force for moving contaminants from land to the rivers and lakes. The water cycle describes these pathways. N moves through ground water. P moves over the surface (attached to sediment).

It is variable how N gets to the water, in terms of proportions that go through ground water and infiltration. Depends on soil types. Intervention methods need to look at both the contaminants and the pathways.

### **Important Concepts**

Attenuation – either a permanent loss or temporary storage of nutrients. Attenuation acts as a mitigation. The amount leaving the source isn't necessarily the amount that will end

	<p>up in the water due to attenuation.</p> <p>Time lags – processes that result in long residence times in groundwater before contaminants reach surface waterways. What we are seeing today might be the result of something that happened years ago. Could be from decades to centuries. A lot of uncertainty around time lags. Due to time lags interventions might not show results for a few years after they have started.</p>	
10.30am	<b>Morning Tea</b>	
11am	<p><u>Technical Primer – Continued</u></p> <p>Whatawhata case study presented (Liz Wedderburn)</p> <p>Area of land owned outside of Hamilton. Leased from Tainui, lease will not be renewed in 2015. This research started in the 1990's. AgResearch, NIWA and DOC involved.</p> <p>Objectives:</p> <p>To conduct a multi-stakeholder, participatory action research project to achieve a “well managed rural hill land farm system” in the context of stakeholder-defined goals</p> <p>Conclusions:</p> <ul style="list-style-type: none"> <li>▪ The participatory process achieved a facilitated consensus on appropriate goals, indicators and planning of land use change</li> <li>▪ Land use change did improve economic and environmental indicators towards stakeholder goals</li> <li>▪ Rates of change for some indicators were different from expectations</li> <li>▪ Implementation costs were high relative to immediate returns</li> </ul>	<p><b>WRC to put the Whatawhata handout on portal</b></p>
12pm	<p><u><b>Lunch and Field Trip</b></u></p> <p><b>The CSG visited the Hamilton City Council Water Treatment Plant and Wastewater Treatment Plant.</b></p> <p><b>Water Treatment Plant</b></p> <ul style="list-style-type: none"> <li>• Only treatment plant for Hamilton</li> <li>• Built in 1971. Several upgrades since.</li> <li>• The plant must meet certain drinking water standards. The plant has an AA water supply rating.</li> <li>• Waikato River is great to draw from due to the consistency of the river, both in terms of flow and contaminants.</li> <li>• 150,000 people are supplied by the plant. 5,000 commercial users are also supplied. The plant</li> </ul>	

	<p>produces on average 57 million litres of water per day (Ml/day)</p> <ul style="list-style-type: none"> <li>• There is metering at key points in the reticulation</li> <li>• The intake structure uses natural water flows. Water flows in and gets pumped through the water treatment system. Goes through a very vigorous treatment process.</li> <li>• The consent for water takes is for 35 years. There are several steps along the way in which the water take could be increased but needs to be justifiable at each step.</li> <li>• About 5% water used in the plant is there to make the treated water.</li> <li>• There are emergency measures in place if the water in the river is too low. These involve Mighty River Power (MRP) and the Waikato Regional Council (WRC) providing info to the Hamilton City Council so they can manage this. There are processes in place if MRP can't guarantee the minimum flows it is required to have out of Karapiro.</li> <li>• In terms of water quality, algal blooms are the most significant issue for the water treatment plant. They produce cyanotoxins that are expensive to test for and take time to test for; this has a delay in results.</li> <li>• Carbon filters protect from algal blooms. Not all water treatment plants have carbon filters and it's very expensive to outfit plants with them.</li> <li>• The water treatment plant has a consent to discharge the process water used. Suspended solids are included in this discharge but as the water discharged was drawn from the river, no new contaminants are added.</li> </ul> <p><b>Wastewater Treatment Plant – including a discussion on stormwater</b></p> <ul style="list-style-type: none"> <li>• Hamilton has one wastewater treatment plant. It was opened in 1977.</li> <li>• Represents the other end of the water cycle.</li> <li>• There are 130 pump stations to move wastewater through the system to the wastewater treatment plant.</li> <li>• Several processes are used to disinfect the water. Bacteria are used to break down the solids. Any leftover solids are used for compost.</li> <li>• Storm water in a large event can be a risk for the plant. High risk storm water gets put back through to the beginning of the plant.</li> <li>• There is a focus on 'trade waste' to make sure firms in Hamilton aren't putting things in the waste water that will be problematic for the plant. Economic growth is to be encouraged but at the same time the investment of the plant and its processes needs to be protected. Problems can occur at the plant if</li> </ul>	
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	<p>some types of waste reach the plant, e.g. killing the bacteria that break down the solids. Trade waste discharges have consents, either permitted or conditional. Some big industries treat their waste on site.</p> <ul style="list-style-type: none"> <li>• Monitoring occurs at the plant to see what contaminants, at what levels, are coming out of the plant.</li> <li>• There are contingency plans including processes to alert downstream users if something happens.</li> <li>• For contaminant problems, the Hamilton City Council looks at inflow and infiltration issues that can be fixed to improve problems, i.e. fixing leaking pipes.</li> <li>• E-coli levels leaving the wastewater treatment plant are below recreational consent levels. You can swim in it.</li> <li>• Hamilton has separate storm water and waste water systems. For new developments, the District Plan requires integrated catchment management (ICM) plans to address quality and quantity effects. Trade waste bylaws also have a role.</li> <li>• When an area is developed, they need a plan for stormwater and there needs to be no change between pre and post development water quality and quantity.</li> <li>• District plan rules are changing towards rules for ICM plans. However, existing discharges can be hard to change, particularly those occurring from homes.</li> <li>• Discharge levels of N and P can't change from the plant, the plant must upgrade to meet any increases of these nutrients from the city. Funding of upgrades has been 70% rates and 30% development contributions. But this doesn't include funds for operational funding.</li> <li>• The plant aims to exceed the conditions of its consent (in terms of discharging less contaminants than the consent allows). This also gives some room for when blips happen. It is run as optimally as possible, but balanced with affordability.</li> </ul>	
2.30pm	Return from Field Trip	
<b>Agreement and Approval Session</b>		
1.	<p><b><u>Overview</u></b>  New recommended CSG members Alamoti Te Pou (Māori Interests), Liz Stolwyk (Community) and Michelle Archer (Env/NGO) were welcomed (to be confirmed by council 28 August)</p>	
2.	<p><b><u>CSG and Joint Chairs Healthy Rivers Wai Ora Committee Update</u></b></p> <p>Co-Chair Cnr Alan Livingston will join the CSG tomorrow to update on the 5 August 2014 meeting.</p>	

3.	<p><b><u>Chair's Opening Statement:</u></b></p> <p>Independent Chair Bill Wasley noted the following:</p> <ul style="list-style-type: none"> <li>• Acknowledge the large turnout today of CSG members.</li> <li>• Noted we were joined by Te Rōpū Hautū members Stephanie O'Sullivan (Raukawa Charitable Trust) and Ben Ormsby (Maniapoto Māori Trust Board) for lunch and the field trip today.</li> <li>• Seating arrangements of the CSG were clarified. It was agreed that core CSG members sit at the main table and delegates attending in addition to CSG members are able to sit behind this. Any delegates attending in place of CSG members will sit at the main table.</li> </ul>	
4.	<p><b><u>Agreement and Approvals Session</u></b></p> <p>a) <u>Confirm meeting notes from CSG4 (DM #3102953)</u></p> <p><b><u>Resolution</u></b></p> <p><b>The workshop notes from CSG4 be approved</b></p> <p>Rick Pridmore/James Houghton Carried</p> <p>b) <u>Report on consents prior to public notification (DM#3123622) – For information</u></p> <p>Discussion points:</p> <ul style="list-style-type: none"> <li>• What possible tools are available for managing applications and issuing of consents prior to notification?</li> <li>• Consent timeframe and review clause, with context of <u>what might be reviewed</u> when plan change goes through e.g. the four contaminants (as they relate to the consent in question)</li> <li>• Ask the WRC to impose consent condition under S128 (1) (b) as written in report.</li> <li>• Policy A4 in NPS-FM 2014 requires consenting officers to consider compulsory national values and they have to apply Vision and Strategy (fishable, swimmable etc)</li> </ul> <p><b><u>Resolution</u></b></p> <p><b><u>That the report be received</u></b></p> <p><u>Al Fleming/George Moss</u> <u>Carried</u></p>	

	<p>c) <u>Report on introduction to planning requirements (Part 2), Section 32, NPS-FM 2014 (DM#3119268)</u></p> <p>There was a brief presentations focusing on the NPS-FW including the difference from the 2011 to 2014 NPS-FW Further discussion on this report after tea break.</p> <p>d) Report on Vision and Strategy paper (DM#3130259)</p> <p>There was no discussion on this matter</p> <p><b>Resolution</b></p> <p><b>That the report be received</b></p> <p>George Moss/Michelle Archer Carried</p> <p>e) <u>Progress report on Economic Joint Venture (DM#3117632) received</u></p> <p>The CSG was advised that the Economic Joint Venture will be discussed as the next CSG workshop</p> <p>Discussion points:</p> <ul style="list-style-type: none"> <li>• Note that the Joint venture not set up to look at Water Quality.</li> </ul> <p><b>Resolution</b></p> <p><b>That the report be received</b></p> <p>Stephen Colson/Rick Pridmore Carried</p> <p>f) <u>Communications Plan (DM#3119945)</u></p> <p>Discussion points:</p> <ul style="list-style-type: none"> <li>• What opportunities are there for us to engage with communities where the CSG workshops are visiting and hear other community voices?</li> <li>• Reaching farmers who are geographically isolated</li> <li>• Invite mayors to provide presentations on range of issues facing their communities from social, environmental, economic etc perspectives.</li> </ul> <p><b>Resolution</b></p> <p><b>That the report be received</b></p> <p>Al Fleming/Liz Stolwyk Carried</p>	
3.45pm	<b>Afternoon tea</b>	

4.15pm	<p><b><u>Approvals session continues</u></b>  Continued discussion on <u>Report on introduction to planning requirements (Part 2), Section 32, NPS-FM 2014 (DM#3119268)</u></p> <p>Discussion points:</p> <ul style="list-style-type: none"> <li>• Exceptions under Policy CA3 in the NPS-FW - Infrastructure exemptions for natural conditions</li> <li>• Can we have a report on how the exceptions policy might be applied (which infrastructure providers in our catchment submitted to be an exception). Process for infrastructure providers exemption applications closing 1 September 2014.</li> <li>• Exemptions may apply where waterbody already has infrastructure and doesn't meet national bottom line</li> <li>• Does it exempt the provider from trying to improve/let them degrade further below the bottom line?</li> <li>• Minister will list some infrastructure in the appendices of NPS</li> <li>• This list of exemptions will need to be considered by this group as it decides on its approach/objectives for the Waikato River.</li> <li>• Noted Vision and Strategy prevails if conflict with National policy.</li> </ul> <p><b>Resolution</b></p> <p><b>That the report be received</b></p> <p>Evelyn Forrest/George Moss Carried</p> <p>There was discussion on river iwi input. It was decided to consider and discuss tomorrow during the wrap up session. CSG Chair undertook to come back with a recommended approach.</p>	
5.00pm	<p><b><u>Values – Emma Reed (WRC)</u></b></p> <p>Aim is to present a working list of values related to the national values in the NPS-FM.</p> <ul style="list-style-type: none"> <li>• There have been recent changes in the NPS-FM. Some involve identifying values</li> <li>• There is a draft list of values in the accompanying report that is proposed</li> <li>• Appendix 1 of the NPS has 13 values that have to be looked at in the process. Other values can be added to the list.</li> <li>• Vision and Strategy was used as the starting point for comparing values with the NPS. Other sources of values (report, sharing values, networks etc) were</li> </ul>	<p><b>Presentation to be provided to CSG on values to take back to their sectors to get feedback from.</b></p>

	<ul style="list-style-type: none"> <li>also compared to the NPS.</li> <li>• High level of consistency and similarity between the sets of values.</li> <li>• One specific area in the Vision and Strategy and in the CSG's discussions isn't covered in the NPS: "Identity, relationship and sense of place"</li> <li>• Staff have formed a draft list for the CSG to look at and refine.</li> <li>• The CSG are looking at the national values in the NPS and seeing how they apply to the Waikato and Waipa river catchments.</li> </ul> <p>The CSG were asked to discuss in groups and report back if they think all the national NPS values apply. The CSG were also asked if they want a new value relating to the idea of Identity, relationship and place.</p> <p><u>Identifying how national values apply to the Waikato and Waipa River catchments - Report for Agreement and approval (DM# 3102316)</u></p> <p><u>Discussion on report</u></p> <ul style="list-style-type: none"> <li>• Values around food production are more than just economic. Include social, cultural etc.</li> <li>• <b>Note that NPS values don't necessarily reflect how the CSG interpret their values.</b></li> <li>• Iwi value around cultural identity may need to be separately stated rather than part of the general one about identity and sense of place. Often a translation can trigger a concept that can't be explained in English.</li> <li>• 'Waste' should be removed from water supply.</li> <li>• Commercial/Industrial use category: meant to pick up all the point source discharge type activities. Intended to cover thermal power stations.</li> <li>• The group haven't had a values engagement with the Energy sector yet.</li> <li>• What do electricity generators offer to communities? More than just economic, also a social service</li> <li>• CSG members to think about would be which values are specific to specific places.</li> </ul> <p>Suggestion for a presentation to be given to CSG members to take to their sectors. To help identify weightings on the values. Can bring back something specific, measureable and quantifiable.</p> <p><b><u>Summary points:</u></b></p> <ul style="list-style-type: none"> <li>• <b>Agreed that all the national values apply.</b> Discussion occurred around weightings and how some values may apply more to some locations, and also around describing these in ways which more accurately apply to our region.</li> </ul>	
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	<ul style="list-style-type: none"> <li>• Additional value, working title: “Identity and sense of place through connection with land and water,” was put forward. There was discussion around this and the idea that it could be separate but encompassing all the others and a lens through which they can be viewed.</li> <li>• Additional value was suggested – geothermal</li> <li>• A point was raised that we should go back to our iwi partners around whether Māori cultural identity needs to be named separately or not.</li> </ul>	
6.30pm	<b>Workshop closed at 6.20pm Karakia and Dinner</b>	

Approved



## Collaborative Stakeholder Group (“CSG”) Workshop 5 Notes

(Day two) 15 August 2014, The Link, 6 Te Aroha Street, Hamilton 8.45am – 4.30pm

### Attendees:

CSG: Alan Fleming (Env/NGO), Garry Maskill (Water supply takes), George Moss (Dairy), Gwyneth Verkerk (Community), James Bailey (Sheep and Beef), Jason Sebastian (Community), Matt Makgill (Community), Phil Journeaux (Rural Professionals), Rick Pridmore (Dairy), Ruth Bartlett (Industry), Stephen Colson (Energy), Alamoti Te Pou (Māori Interests), James Houghton (Rural Advocacy), Tim Harty (Delegate Local Government), Alastair Calder (Tourism and Recreation), Brian Hanna (Community), Chris Keenan (Horticulture), Evelyn Forrest (Community), Patricia Fordyce (Forestry), Weo Maag (Māori Interests), Gina Rangi (Maori Interests), Gayle Leaf (Community), Liz Stolwyk (Community), Michelle Archer (Env/NGO), Dave Campbell (Delegate - Env/NGO), Charlotte Rutherford (Delegate - Dairy), Andrew Jolly (Delegate – Sheep/Beef)

TLG: Dr Bryce Cooper (Chair), Antoine Coffin, Dr Tony Petch, Mike Scarsbrook,

Other: Bill Wasley (Independent Chair), Helen Ritchie (Facilitator), Jo Bromley (WRC), Janine Hayward (WRC), Will Collin (WRC), Jackie Fitchman (WRC), Vicki Carruthers (WRC)

Other (part): Emma Reed (WRC), Ruth Lourey (WRC), James Whetu (WRC), Debbie Goodwin (TKI),

### Apologies:

CSG: Sally Davis (Local Government), Hone Turner (Community)

Other: Wendy Boyce (WRC), Justine Young (WRC)

Item	Description	Action
8.45am	The workshop commenced at 8.45am with a Waiata Himene.  Introduction of recommended new members (Liz Stolwyk, Alamoti Te Pou, Michelle Archer) and delegates Charlotte Rutherford (Dairy), Andrew Jolly (Sheep and Beef), Tim Harty (Local Govt) and Dave Campbell (Env/NGO).	
6.	<b><u>Feedback from our Networks</u></b>	Follow up on technical

	<p>The group discussed feedback from their networks.</p> <p>Sheep and beef sector: James Bailey gave a brief summary. Key points: Technical questions were asked for including feral animals, how much contaminant come from natural sources. Interested in how the cost/benefit analysis will be conducted. Want to see what's outside the square, overseas examples etc.</p>	<p>questions from Sheep and Beef sector meetings</p>
7.	<p><b><u>Reflect on yesterday's session</u></b></p> <p>The CSG covered:</p> <ul style="list-style-type: none"> <li>• Field Trip</li> <li>• The Technical Leaders Group presentations</li> <li>• Values discussions</li> </ul> <p>Noted:</p> <ul style="list-style-type: none"> <li>• Technical Primer - Sources and pathways was very good. Nutrient management paper is able to be used in discussion with sectors and will be put on portal.</li> <li>• Would be useful to receive similar papers from forestry and cropping. Trish recommended report on Sources of sediment – TR 2012 (WRC). Similar report on microbes.</li> </ul>	<p><b>Follow up with TLG about sources of information on forestry, cropping. Put Tech Reports on sediment sources and faecal microbes on the portal.</b></p>
8.	<p><b><u>Freshwater Management Units – Tony Petch (TLG)</u></b></p> <p>Identifying Freshwater management units is a first step in the NPS-FM process. Four options were suggested by the TLG for the CSG to discuss and decide on.</p> <p>This report (DM#3121490) uses terminology from the NPS. Freshwater Management Units (FMUs) are used in the process of identifying values, defining attributes and then setting objectives and limits.</p> <p>The Vision and Strategy has a whole of river approach idea. Simplicity helps implement good policy. Clear objectives are important. When the catchment is broken up there may be variable rules for different parts of the catchments.</p> <p>FMU's scale help to make them practicable and implementable.</p> <p>Monitoring and evaluation of policy effectiveness is something to consider when picking FMUs. Could look at water quantity links. Should cover entire region so overall water quality can be assessed.</p> <p>These factors suggest fewer rather than more FMUs.</p> <p>Other factors that could be considered when selecting FMUs are:</p> <ul style="list-style-type: none"> <li>• Community of interest</li> <li>• Iwi boundaries</li> </ul>	

	<ul style="list-style-type: none"> <li>• Geomorphology (landscapes)</li> <li>• Catchments</li> <li>• Location of monitoring or accounting sites</li> <li>• Management structures (zone committees)</li> <li>• Land care groups</li> <li>• Location of large infrastructure (e.g. dams, wastewater treatment systems)</li> </ul> <p>Proposed options for FMUs. Report includes a comprehensive table with info around the FMU options.</p> <p>It should be noted that several lakes are below the NPS bottom lines. There are significant areas in the lower catchment for these lakes that will need special approaches.</p> <p>Different proposed options are shown on maps.</p> <ul style="list-style-type: none"> <li>• All options have Upper Waikato as an FMU (from Karapiro to Huka falls)</li> <li>• Option 2 represents simplicity in its greatest form. Upper, Middle, Lower Waikato</li> <li>• Option 3 closely aligns with zone committees</li> <li>• Option 4 pulls out the Hamilton basin as a separate FMU</li> </ul> <p>All options have an overlay showing lakes that currently do not meet national bottom lines.</p> <p>Questions/ discussion:</p> <ul style="list-style-type: none"> <li>• Impounding affects how N and P are expressed, levels of faecal, organisms and sediment – seems like one logical ‘unit’</li> <li>• Management issues in Lower Waikato from Lakes impact on the four contaminant effects, so lower Waikato seems like another logical unit</li> <li>• How best to deal with middle?</li> <li>• Most options have main stem of Waikato distinct from Waipa. Waipa contributes to lower river issues. Option 2 is simple and reflects similarity of sediment-generating areas in Waipa and the peripheries of the Hamilton basin (Mangawhara).</li> <li>• Four drivers (river quality, geomorphology, land use activities, social activity on the river)</li> <li>• Separating out community around Hamilton – makes closer links to communities, may generate greater sense of responsibility. But will the policies differ?</li> <li>• Concern with focus on effects of dams – when sources come from higher up – where are we best to monitor sources? We can monitor further upriver</li> <li>• Can get down to smaller areas with implementation e.g. with Environmental Plans – need to keep it simple at the higher level</li> <li>• Need to recognise that down river people receive</li> </ul>	
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	<p>contaminants from upper river. Use monitoring to target management to key areas. But need to be careful about cumulative effects – lower river proportion shouldn't be expected to manage all the effects.</p> <ul style="list-style-type: none"> <li>• How do FMU options relate to the water quality drivers? And to river classifications used in WRP? Do this as in overlay</li> <li>• Concern about use of Narrows to monitor upper river. Advice received is that the distance from Karapiro to the Narrows can be accounted for. The Narrows is a standard sampling site.</li> <li>• Concern about our role and community engagement around the lakes that currently don't comply with NOF.</li> <li>• Which option best matches the run-off characteristics? Option 4 or 2.</li> <li>• The more we break it up the more accounting we need.</li> <li>• One unit is an option.</li> <li>• Will we really manage it differently?</li> <li>• If we get policies that are the same, we could merge the FMUs later.</li> <li>• Geothermal issues – arsenic</li> <li>• For Māori – river is one</li> <li>• Integrate with Catchment Management Liaison work</li> <li>• A sub regional approach helps achieve the higher level approach i.e. the more localised items can be dealt with other things like the Waipa Catchment plan.</li> <li>• Question about the flow of ground water back into the streams. Is it monitored? Ground water is monitored separately. Lag times aren't all known about.</li> </ul> <p>The group discussed the advantages of the different options presented, looking at simple options, land forms, urban areas, soil types, whole of river.</p> <p>The CSG members were asked to indicate their preference. The largest number (11 members) preferred Option 3. Those who did not favour Option 3 gave these reasons:</p> <ul style="list-style-type: none"> <li>• Separating out Hamilton not based on natural features</li> <li>• Policies will be similar across whole catchment</li> <li>• Too much splitting could add to cost of compliance, monitoring, management.</li> <li>• Applying attributes to the Waipa – won't they be the same in lower and upper – want to see upper Waipa split.</li> <li>• Not sure we have right justification for a Karapiro split.</li> </ul>	
10.30am	<b>Morning tea</b>	
9.	<b><u>Attributes Presentation– Mike Scarsbrook (TLG) (DM# 3140287)</u></b>	<b>Guidance required on what type of</b>

	<p>Looking at attributes for 'swimmability,' 'healthy biodiversity' and 'fishable.'</p> <p>Discussion points raised during the session:</p> <ul style="list-style-type: none"> <li>• NOF deals with water quality but other factors such as connectivity contribute to ecosystem health as an outcome. Needs to be remembered there is a broader context.</li> <li>• How do we know which contaminant or stressor is most important? Sediment may be most significant but adding in other stressors may increase detrimental effects or they may not have any extra effect.</li> <li>• Why do these attributes measure 'negatives' not positive indicators? We measure against a reference point of a 'natural' waterway – Western science approach. Māori would want to look at the actual condition e.g. of fishery</li> <li>• What does swimmability mean? (All flows, all year round?)</li> <li>• Why is Ohaki higher than Ohakuri for E. coli? Possibly because the water is flowing more at Ohaki but settles out at Ohakuri.</li> <li>• If a lake breaches one attribute but it's not having an effect – do you have to improve? NOF says yes. Seems like we shouldn't have to set work in action to fix something that is not even a problem.</li> <li>• MCI (Macroinvertebrate Community Index) would be a more holistic and biological indicator but the NOF couldn't get to a level that could be applied nationally. This doesn't mean it shouldn't be part of our system.</li> <li>• If these are attributes we can use at the FMU scale, how difficult is it to translate that to a property level? Use these to set objectives and targets. Then look at specific actions to meet them</li> <li>• TLG building on Economic Joint Venture work to look at what it will take to achieve different attribute levels and costs to achieve this.</li> <li>• Also important to know how actions are 'done' at farm level (Policy question)</li> <li>• Attributes need to address tributaries, not just main river.</li> <li>• The trophic level index was developed for natural lakes. Rivers have trophic state also.</li> <li>• Man made infrastructures such as dams can have attributes applied.</li> <li>• Why use deposited sediment, not use suspended sediment? Suspended sediment links strongly to clarity/turbidity measures. Deposited sediment has strong impact on aquatic life but is not widely measured. Only recently national protocols have been developed for it. The CSG needs to see if it is important and if we can measure it. May not be able to include.</li> <li>• Need to consider practicality and cost effectiveness of mitigation</li> </ul>	<p><b>riparian plants do what/address what issues.</b></p> <p><b>CSG to provide TLG with a list of values</b></p>
10.	<b>Focus on sub-catchment: Middle River</b>	

	The group carried out a participatory mapping exercise from Karapiro to Ngaruawahia. These notes are located in document Facilitation session notes for CSG workshop 5 (14 and 15 August 2014). Document # 3140139.	
	Cnr Alan Livingston thanked the group for their contribution to date. Updated the group on the recent Healthy Rivers Wai Ora Committee meeting.	
1pm	<b>Lunch</b>	
	<p>An exercise was done with the CSG where members drafted descriptions of the NPS national values (plus the additional geothermal value) to better describe them from a CSG perspective.</p> <p>Descriptions and notes contained in Facilitation session notes for CSG workshop 5 (14 and 15 August 2014). Day 2, 15 August 2014 Section 5a. Values. Document #3140139.</p>	
11.	<p><b><u>Point vs non-point sources presentation - Bill Vant (WRC) (DM# 3127539)</u></b></p> <p>Bill Vant invited by TLG to present.</p> <p>Analysis recently completed on where the N and P come from. Presentation on this today as well as some initial thinking on <i>E. coli</i></p> <ul style="list-style-type: none"> <li>• Sources used here as the term. Contaminant accounting is the term used by the NPS.</li> <li>• Accounting that has been done is from data collected within the region. At 20 locations water quality and flow are measured.</li> <li>• 19 consented point source discharges. Operators are required to provide flow and water quality.</li> <li>• Load is the product of the flow times the concentration of the contaminant. Load is a mass of something over a period of time.</li> <li>• Map is shown of monitoring sites used in the report.</li> <li>• Data is for the decade that ended in 2012. Some examples are shown of the river sites and the point sources.</li> <li>• Flows on the river are higher than the flow of the point sources. Concentrations are higher in the point sources than the river. Loads are higher as you go down the river.</li> <li>• How much each point source discharges in terms of N and P is shown on the graphs.</li> <li>• Of the point sources the big ones are Hamilton and Kinleith mill.</li> <li>• Contaminant accounting. The load carried by the river minus the natural contribution minus the point sources</li> </ul>	

equals the land use contribution.

- An example was shown for N in the Waipa Catchment.
- Natural contribution is based on expert judgement. Based on the area of the catchment and native bush estimates.
- The land contribution is the extra N.
- Major disturbances can add extra nutrients, even for background loads. This can't be measured or estimated and isn't included.
- To sum up. In the Waikato/Waipā approximately 7% of the N and 18% of P comes from point sources.
- Land use – 61% N and 45% P
- Background - 29% N and 35% P
- Between periods of time there can be difference of flow which can account for differences in loads.
- Differences between overseer model estimates and actual N leached
- Don't have to link overseer N with real N.
- Point sources have gotten better over the last decade.

For point sources:

- For P there has been a 30% reduction over the decade.
- For N there has been a 7% reduction

For *E. coli*:

- *E. coli* from point sources. A lot from Te Kuiti and Hamilton. *E. coli* die and disappear, but nobody knows how many *E. coli* from Te Kuiti make their way to Tuakau.
- Combined point source load for *E. coli* is no more than 5% of the amount that is measured at Tuakau.
- Overall numbers versus particular hotspots.
- At the Te Kuiti plant, upstream is unsafe for swimming. Downstream is even worse for swimming. This is for low flow.
- At higher flows this would be diluted.
- Te Kuiti recently upgraded their discharge plant. In recent months this has reduced *E. coli* concentration in the discharge by 100 fold. Now downstream is only 6% worse than upstream of the sewage plant.
- Cost \$11m dollars to upgrade.

Conclusions:

- Monitoring data can be used to identify the contributions of different sources of contaminants
- Background is something that we can never do anything about.
- Overall point source discharges are a minor source of *E. coli* but there are localised sites where they are more of a problem.

Annual loads are perhaps misleading. Quite some variance in terms of seasonal variability. Total loads give the potential.

12.	<p><b><u>Wrap up session</u></b></p> <p><u>Discussion on River Iwi Input</u></p> <p>The following was discussed:</p> <ul style="list-style-type: none"> <li>• At the last CSG meeting, the desire for input from river iwi was considered important to successful project outcomes.</li> <li>• It is noted that the project and CSG are operating in an emerging co-governance and co-management environment. This requires a new way of operating and thinking.</li> <li>• Waikato Regional Council staff provide support in a variety of ways to the project and attend meetings to contribute as and when required and provide advice.</li> <li>• The Chair would like to propose that river iwi staff attend CSG meetings on the same basis and that we then have access to iwi technical advisors on a similar basis to that the CSG has in respect of Council staff.</li> <li>• River iwi technical staff would be there to provide advice when requested on behalf of iwi and not there as TRH representatives. An example of how such an arrangement would be of benefit is related to mātauranga Māori where only iwi advisors would be in a position to outline what it means in respect of each rohe.</li> <li>• The above arrangement does not mean there would be technical advisors from each iwi at every meeting given resourcing implications and iwi having a range of other commitments.</li> </ul> <p><b>Resolution</b>  <b>That river iwi staff be invited to attend CSG meetings on the same basis as Regional Council staff, provide advice and input when requested, and may also include formal reports</b></p> <p>George Moss/Rick Pridmore  Carried</p> <p><u>Bus Trip</u>  Confirmed for 23 September 2014 with an energy sector visit to Ohakuri Power Station and Wairakei Power Station. Healthy Rivers Wai Ora Committee and Te Rōpū Hautū members will be joining us on the day.</p> <p><u>Large Stakeholder Forum</u></p> <p>Date confirmed for 23 October 2014 in Hamilton. Online</p>	

	<p>Registration available soon.</p> <p>Objectives of the workshop:</p> <ol style="list-style-type: none"> <li>1. Inform stakeholders on what the project is about and the latest developments.</li> <li>2. Inform stakeholders about the project timeline and opportunities to keep involved.</li> <li>3. Collect feedback on the CSG's draft policy selection criteria</li> </ol> <p>Key points:</p> <ul style="list-style-type: none"> <li>• Important to keep telling people what the project is about.</li> <li>• Ensure the meeting contains enough substance to make it relevant and worthwhile.</li> </ul> <p>Suggestion to include:</p> <ul style="list-style-type: none"> <li>• A conversation around verification of values</li> <li>• Background on some of the info that has been presented at the CSG meetings, e.g. sources of contaminants</li> <li>• Summary of Economic Joint Venture work</li> <li>• Talk about new NPS and new requirements e.g. where national bottom lines are currently not met.</li> <li>• Need positivity as well - Good news stories</li> </ul> <p><u>Next workshop: CSG6 – Tūrangawaewae Marae, Ngaruawahia</u></p> <p>15/16 September 2014, venue will be Tūrangawaewae Marae. Hosted by Waikato – Tainui.</p> <p>Focus on:</p> <ul style="list-style-type: none"> <li>• Mātauranga Māori approach</li> <li>• Lower rivers and lakes</li> <li>• Economic Joint Venture information</li> <li>• Current state and attribute levels</li> <li>• Developing policy selection criteria to take to LSF</li> </ul>	
13.	<p><b><u>Chairs closing comments</u></b></p> <p>Bill thanked the group for their attendance over the two days. Enjoyed the Technical Leaders Group presentations and learning's. Welcome to new recommended CSG members and welcome the opportunity to talk further an answer any questions they may have.</p> <p>The Chair clarified in response to a query that delegates could only contribute to the discussion and meeting generally when they were sitting in for the core CSG member they were a delegate for. Otherwise their role was a passive one of listening.</p>	

	The Chair also advised of the post CSG sessions/ briefings for those who could not attend CSG meeting or wanted to follow up on particular matters of clarification.	
3pm	<b>Afternoon tea</b>	
3.15pm	<p><b><u>Evaluation Results</u></b> (Kate McKegg and Debbie Goodwin from the Knowledge Institute)</p> <p>Closed session with CSG members to review evaluation survey results.</p>	
4.30pm	<b>Meeting closed at 4.30pm</b>	

Approved