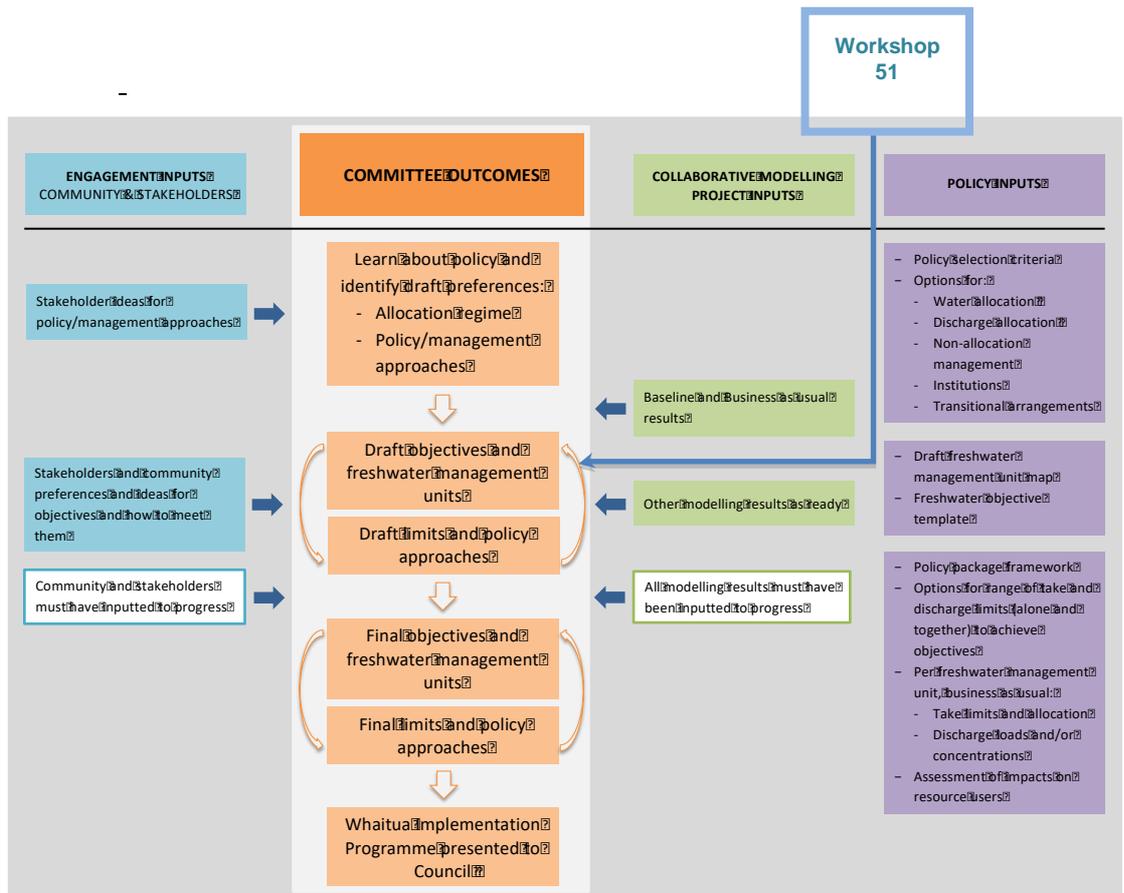


# Meeting Notes: Ruamāhanga Whaitua Committee

## Deliberations Phase 3 – Workshop 51

Tuesday 24 October 2017, 3:00pm - 8:00pm

Kiwi Hall, Featherston



**Summary** This report summarises notes from a workshop of the Ruamāhanga Whaitua Committee held from 3PM to 8PM on Tuesday 24 October 2017 at the Kiwi Hall in Featherston.

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**Contents** These notes contain the following:

- A** Workshop Attendees
- B** Workshop Purpose and Agenda
- C** Workshop Decisions
- D** Workshop Actions
- E** Workshop Notes – Setting freshwater objectives
- F** Workshop Notes – Setting freshwater objectives for human health
- G** Workshop Notes - Reflection

**Appendix 1:** Ruamāhanga whaitua freshwater objectives – human health *E.coli* attribute

**Appendix 2:** Photos of Flipcharts

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## **A Workshop Attendees**

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**Workshop Attendees**

*RW Committee:*

Aidan Bichan, Mike Birch, Esther Dijkstra, Andy Duncan, David Holmes, Peter Gawith, Russell Kawana, Ra Smith, Chris Laidlaw, Colin Olds, Vanessa Tipoki, Mike Ashby.

*Greater Wellington Project Team:*

Horipo Rimene, Alastair Smaill, Natasha Tomic, Hayley Vujcich, Kat Banyard, Jon Gabites, Pauline Hill, Richard Parkes.

*Modellers:* John Bright, James Blyth.

*Independent Facilitator:* Michelle Rush.

*Apologies:* Rebecca Fox, Phil Palmer.

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## **B Workshop Purpose and Agenda**

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**Purposes** The purposes were:

**Purposes**

1. To understand the process through which RWC will

develop, refine and confirm freshwater objectives and the methods through which these will be implemented (the packages of policy tools) from now until the 12 December workshop.

2. Refresh understanding of the three scenarios that were modelled, the assumptions made, and the role the results play as a decision support tool (a refresher on what models are, and how best to use them).
3. Build an understanding of the modelling results for *E-coli* in respect of the whitua as a whole including the findings for the future under each of the:
  - a. Business as Usual
  - b. Silver and
  - c. Gold scenarios.
4. Refresh understanding of RWC vision, long term outcomes and values, and in particular the specific values to which *E-coli* is relevant, and with this in mind, integrate the modelling results for *E-coli* with the knowledge and perspectives gained through:
  - a. mana whenua engagement
  - b. other community and stakeholder engagement
  - c. RWC members' own experience and expertise and
  - d. the planning requirements, where relevant, that guide what RWC must do, e.g. minimums from NPS (new version) and PNRP.

From this, identify the implications and key messages to take into the task of starting to develop freshwater objectives for each FMU.

5. Begin developing freshwater objectives for each Freshwater Management Unit in the Ruamāhanga Whaitua, starting with objectives to which the *E-coli* attribute has direct relevance.

All five purposes were achieved.

**Agenda**

The agenda is detailed in the table below.

<b>Time</b>	<b>Task</b>
(3:00 – 3:10PM)	Welcome (Peter Gawith) and Karakia (Ra Smith), Purposes (Michelle Rush) (3:00 – 3:10PM)
(3:10 -	Process for developing freshwater objectives (Alastair Smail)

3:20PM)	(3:10 - 3:20PM)
(3:20 - 3:30PM)	Our starting point for human health objectives (Alastair Smaill) (3:20 - 3:30PM)
(3:30 - 4:20PM)	Integrating information into developing freshwater objectives – mana whenua perspective, views of community and stakeholders, modelling information etc.
<b>(4:20 - 4:30PM)</b>	<b>Afternoon tea</b>
(4:30 - 6:00PM)	Developing freshwater objectives for human health
<b>(6:00 - 6:30PM)</b>	<b>Dinner</b>
(6:30 – 7:40PM)	Developing freshwater objectives for human health - continued
(7:40 – 8:00PM)	Reflection on process and looking forward to the next workshop
<b>(8PM)</b>	<b>Meeting Close</b>

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## C Committee Decisions

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### Committee Decisions

- The Committee reached a consensus on proposed freshwater objectives for *E-coli* for rivers in all of the Freshwater Management Units except for the Lakes FMU. The freshwater objectives agreed are detailed in appendix one.

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## D Workshop Actions

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### Workshop Actions

It was agreed to clarify some of the questions on the template sheet used to help develop freshwater objectives, and to make it clearer that the table was there as a prompt and guide, rather than something to be exhaustively and meticulously filled in.

**Action:** PT to revise the templates accordingly.

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## E Workshop Notes – Setting freshwater objectives

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### Introduction to setting freshwater objectives

Alastair Smaill gave an introduction to the setting freshwater objectives part of the Committee’s work. This will be occurring over the next 4 meetings between now and the end of November. Objectives will be set for a range of values. Freshwater objectives are what you want the river to look like.

The main points were:

- Tonight we'll be looking at the human health aspects. The National Policy Statement for Freshwater Management (NPS-FM) requires us to set objectives above the bottom line, in the C band or above, and we must maintain or improve water quality.
- It's important to think about all the relevant information, not just the modelling results. The modelling results are a decision support tool.
- *E.coli* is related to recreation and Maori customary use and mahinga kai as well as swimming.
- The Committee will set bands for freshwater objectives at the moment but these will then be turned into exact numbers.
- Introduced the values and objectives cascade table for consideration by the Committee.

#### [Draft values and objectives cascade - Te mana o Ruamāhanga](#)

- The Committee will initially set bands they want to achieve. Later these will need to be numeric.
- Changes to the NPS-FM in 2017, changed what the definition of swimmability is. There is now a target of 90% swimmable rivers by 2040. This provides a timeframe for your objectives to be met. Roughly 68% of the Wellington Region Rivers are currently swimmable.
- Each whaitua in the region will target 90% swimmable in their whaitua, rather than trading off across whaitua.
- Need to consider how easy/hard it will be to make the shifts you consider as your freshwater objectives.
- Looked at the MfE swimmability map, considering those in the red band in the Wairarapa.

#### [MfE swimmability map](#)

#### [Benchmarking of \*E.coli\* in the Ruamāhanga Whaitua](#)

- The MfE swimmability is calculated using a rolling average of five years of analysis so it will take time to see changes.
- Explained the different *E.coli* criteria on pg. 39 of the NPS-FM. A lot of this workshop will be looking at an overall grade.
- The benchmarking information provided gives more context.

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## **F Workshop Notes – Setting freshwater objectives for human health**

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**Modelling results to assist in setting human health objectives for each FMU**

James Blyth gave a presentation on the modelling done for *E-coli* in respect of each of the freshwater management units (FMUs) within the Ruamāhanga Whaitua (excepting the Lakes FMU). A report titled Human Health E.coli summary was provided in advance of the workshop.

[Presentation on E.coli modelling of the Ruamāhanga Whaitua](#)

[Report on human health E.coli summary of Ruamāhanga scenario modelling](#)

Q: Can we get the land use map from the presentation?

A: It's on the last page of the full report from Jacobs.

Q: What was modelled for riparian planting?

A: In the Silver scenario a 5m buffer by 2080 was tested. In the Gold scenario a 10m buffer was applied by 2040.

Q: Is climate change taken into account in these results?

A: No.

Q: What are the confidence limits on the modelling?

A: Any sites where there is no observed data, there will be less confidence.

The Committee reminded themselves of the mitigations tested within each scenario. E.g. retirement of class 7 and 8 land.

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**Other information – setting freshwater objectives for human health**

Kat Banyard highlighted relevant information from past community engagement and reiterated that this is all information the Committee has heard previously. This will help inform their decision making.

[Engagement information - developing human health freshwater objectives](#)

Natasha Tomic followed with information from the mana whenua engagement at Papawai in mid-December. The Committee also needs to keep this in mind when considering freshwater objectives.



Summary analysis  
from Papawai Marae

Alastair Smaill introduced the summary sheet of E.coli results. The Committee will need to consider what other things might get a river

to swimmable if the modelling isn't showing the improvement required. It was noted that for some locations the MfE modelling and our modelling is showing different bands.

[BAU and scenario results summary table for E.coli](#)

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**Reflection on what has been heard so far**

Committee members discussed all this information, reflecting what they had learnt and what the modelling data had added to their understanding. They then discussed what they need to keep in mind when setting freshwater objectives.

Learnings:

- It is hard to shift the *E.coli* results
- Need to go through the issues with affected communities
- What conversations do we need to have with the community when the modelling shows we can't even reach a C band for FMUs that are below bottom lines?

What has the modelling told us:

- Shows potential ways to reach a C band in some places.
- There are no easy fixes. Is 95% of waste disposal to land proposal robust? Is it realistic?
- Land use map is from 2014 and pole planting map is most recent. Potential that a lot more retirement has happened since then.
- Focus effort into the mitigations that work. Some information on what might/might not work.
- To get the change in band we want we may need to consider management at a sub-catchment or paddock scale. There are potentially other farm management practices that could be implemented that were not modelled.
- In some rivers, changes around water allocation may impact on achieving water quality objectives.

Keep in mind when setting freshwater objectives:

- Decisions around locations in the D and E bands are simple as they have to move to the C band.
- Considering how best to get people engaged in catchment communities is really important in areas where the modelling is not showing a lot of change.
- Comments from mana whenua that the river is used as a highway to remove water as quickly as possible and there is a focus on flood protection. How are we considering river management objectives? We will consider these at future workshops.

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**Workshop activity – setting freshwater objectives for human health**

Hayley Vujcich introduced the worksheet the Committee will work through to assist in their decision making.

[Example worksheet to develop freshwater objectives for E.coli](#)

Working in small groups, Committee members were allocated one or more FMUs and tasked with identifying objectives (a suitable NOF band) for the *E.coli* attribute that they believed best provided for the seven values they have identified for the Ruamāhanga catchment, along with their vision and long term outcomes. They were also asked to identify, where necessary, any other measures they believed needed to be considered to enable the objective to be met (measures beyond those built into the modelled scenarios).

The Committee was also provided with maps showing the *E.coli* results to aid decision making:

[Map of E.coli modelling results - 50th percentile](#)

[Map of E.coli modelling results - simulated swimming category changes](#)

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**Plenary discussion – setting freshwater objectives for human health**

Results were reported back, and a plenary discussion followed to seek and then confirm a consensus decision. The notes from the workshop groups and the decisions they reached for each river are set out in appendix one.

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## **G Workshop Notes – Reflection**

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**Reflection on background materials**

A short discussion was held at the conclusion of the workshop to review the background material and templates used to assist the objective setting process.

What was useful for this workshop?

- Having a team of people to answer questions.
- Having the summary table of the technical report. It was then useful to investigate anything further in the full report if needed.
- The worksheet kept everyone on track and was a useful prompt.

What could have been better?

- Filling out the worksheet the first time was useful but after that it would have been useful to have the information pre-filled.

- Is the climate change question on the worksheet useful?
  - Other methods didn't always fit into this conversation.  
However it was helpful to always be thinking big picture.
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## Appendix 1: Ruamāhanga Whaitua Freshwater Objectives - Human health *E.coli* attribute

River	FMU:	Recommended E coli NOF Band:	Reason why (with respect to RW values)	Other Measures for <i>e coli</i>
<b>Western Rivers FMU</b>				
Waiohine	Western	A (maintain)	- Highest grade already	<i>As for measures suggested for Ruamahanga main stem FMU... reproduced here...</i> <ul style="list-style-type: none"> <li>- On-site effluent treatment systems for life style blocks – set minimum performance standards &amp; monitor and enforce</li> <li>- Sub-catchment groups to develop a more targeted approach to reducing e-coli loads than the modelled scenarios achieved (retiring class 8 &amp; 7e is a pretty blunt approach)</li> </ul>
Waipoua	Western	A (maintain)	<ul style="list-style-type: none"> <li>- Head waters catchment – want to target improvement in these catchments to achieve benefits downstream.</li> <li>- Close to population centre</li> </ul>	
Upper Ruamahanga	Western	C (improve)	<ul style="list-style-type: none"> <li>- National bottom line</li> <li>- Too difficult to do better</li> </ul>	
Mangatarere	Western	B (improve)	<ul style="list-style-type: none"> <li>- Relatively small improvement required to achieve this.</li> <li>- Contact recreation area</li> <li>- A significant site for trout spawning and for the local community</li> <li>- Town discharge is the main problem.</li> </ul>	
Waingawa	Western	A (maintain)	- Top grade already	
Tauherenikau	Western	A (maintain)	- Top grade already	
<b>Eastern Hills Rivers FMU</b>				
Taueru River	Eastern Hills	C (maintain)	<ul style="list-style-type: none"> <li>- Has been hugely valued for its recreation in the past and have eels you could pull out</li> <li>- Big sheep and beef community to bring along</li> <li>- Huge catchment!!</li> <li>- Monitoring only at bottom end</li> </ul>	<ul style="list-style-type: none"> <li>- More monitoring to help show the role of different sub-sub-catchments – as very large catchment!</li> <li>- Better sub-catchment information on sources</li> <li>- Bring sub-catchment community on journey to help understand</li> <li>- Has fortified pa – plus</li> </ul>

<b>River</b>	<b>FMU:</b>	<b>Recommended E coli NOF Band:</b>	<b>Reason why (with respect to RW values)</b>	<b>Other Measures for <i>e coli</i></b>
				Schedule C Sites of significance and Wahi tapu urupa - Mahinga kai along the river - River management in waterway
Huangerua River	Eastern Hill Rivers	B (maintain)	<ul style="list-style-type: none"> <li>- Significant site (Pa) chasm and Hurunui o Rangi Marae</li> <li>- Suffers very low flows leaving the current 'B' state feels a little shaky given very dry years recently</li> </ul>	
Makahakaha Stream	Eastern Hill Rivers	B	<ul style="list-style-type: none"> <li>- The magical stream that flows south to north</li> <li>- Very little is known about this catchment! But, it has a similar soil, climate and land use profile as Huangerua and Taueru</li> <li>- The modelling results are uncalibrated and the regional and national modelling results are very different</li> <li>- High sheep and beef and some higher level of dairy support than other Eastern Rivers</li> <li>- Unusual from a cultural perspective as no such B &amp; C sites, needs further discussion, but is near Hurunui o Rangi Marae and sites of significance including two urupa</li> </ul>	
<b>Aorangi Rivers FMU</b>				
Tauanui	Aorangi Rivers	A (improve)	<ul style="list-style-type: none"> <li>- Significant sites for Maori – Raho Ruru Pa site</li> <li>- Recreation: Pirinoa community swimming hole in Tauanui Awa for years.</li> </ul>	<ul style="list-style-type: none"> <li>- Land management setback distance for strip grazing/feed pads from rivers</li> </ul>

River	FMU:	Recommended E coli NOF Band:	Reason why (with respect to RW values)	Other Measures for <i>e coli</i>
			<ul style="list-style-type: none"> <li>- 2015/2016 the river dried up</li> <li>- Public Health: Pirinoa water supply (Town Hall, School etc) taken from well by Tauanui River. Been contaminated with <i>e. coli</i> last two summers.</li> <li>- Small catchment (in terms of farm land) therefore easy to get big wins (only a couple of problematic land users). There is a lot of bush in the catchment.</li> <li>- Eastern tributaries will be subject to lower flows from climate change. Lead to increased concentrations of <i>E. coli</i>.</li> </ul>	<ul style="list-style-type: none"> <li>- Full water restrictions at minimum flow (both rivers drying up – will be exacerbated by climate change)</li> <li>- De stock</li> <li>- River management (look at more)</li> <li>- Low flow</li> </ul>
Turanganui	Aorangi Rivers	B (Maintain)	<ul style="list-style-type: none"> <li>- Significant sites for Maori. Ngawapurua Pa sites, Urupa Whakatomotomo Road. Old market gardens Whakatomotomo Road.</li> <li>- Recreation use: Swimming holes and fishing</li> <li>- Traditional Mahinga kai – tuna gathering, and koura, water cress</li> <li>- Good bang for buck.</li> </ul> <p><b>Other Notes:</b> Would like to be B.            Serious degradation last few years and drying up near bridge (to Lake Ferry) most summers            D → C (probably better reflection – more intensive land use than Taunui and unrestricted Cat A irrigation and dairy farms)</p>	
<b>Northern Rivers FMU</b>				
Kopuaranga	Northern	C (improve)	<ul style="list-style-type: none"> <li>- Have to at least be able to swim</li> <li>- Confluence is a special place – must at least be able to swim</li> </ul>	<ul style="list-style-type: none"> <li>- Requires a lot of effort</li> <li>- Intensity of livestock in wetter areas</li> </ul>

<b>River</b>	<b>FMU:</b>	<b>Recommended E coli NOF Band:</b>	<b>Reason why (with respect to RW values)</b>	<b>Other Measures for <i>e coli</i></b>
Whangaehu	Northern	C (improve)	<ul style="list-style-type: none"> <li>- Have to at least be able to swim</li> </ul>	<ul style="list-style-type: none"> <li>- Extra resources required</li> <li>- Finer grain farm management plans</li> </ul>
<b>Valley Floor FMU</b>				
Parkvale	Valley Floor Streams	C (improve)	<ul style="list-style-type: none"> <li>- Not a high recreation area.</li> <li>- Discharges into Ruamahanga River so want C or above – impacts other swimming spots downstream</li> <li>- Only drinking water for stock – no public water supply</li> <li>- Watercress is collected</li> <li>- Concentrate changes when high rainfall – 95<sup>th</sup> percentile</li> <li>- Mitigations to apply to lifestylers as well</li> <li>- (similar to Otukura)</li> </ul>	<ul style="list-style-type: none"> <li>- Wetlands</li> <li>- Management – set backs for more intensive land use from depressions or waterways e.g. strip grazing, winter crops</li> <li>- Riparian plant hot spots – could also help shade to deal with periphyton problem</li> <li>- How winter grazing is dealt with</li> <li>- Stock management</li> </ul>
Otukura	Valley Floor Streams	C (improve)	<ul style="list-style-type: none"> <li>- Not big recreation area – mostly private land</li> <li>- Used to be a pa site – changed post 1855 earthquake – not in scheduled significant sites</li> <li>- Going to take something other than modelling mitigations to reach C band</li> <li>- Big catchment area. Issues with farm drainage.</li> <li>- Some areas for mahinga kai mostly on private land.</li> <li>- Need to deal with water quality in high rainfall events.</li> <li>- (similar to Parkvale)</li> </ul>	

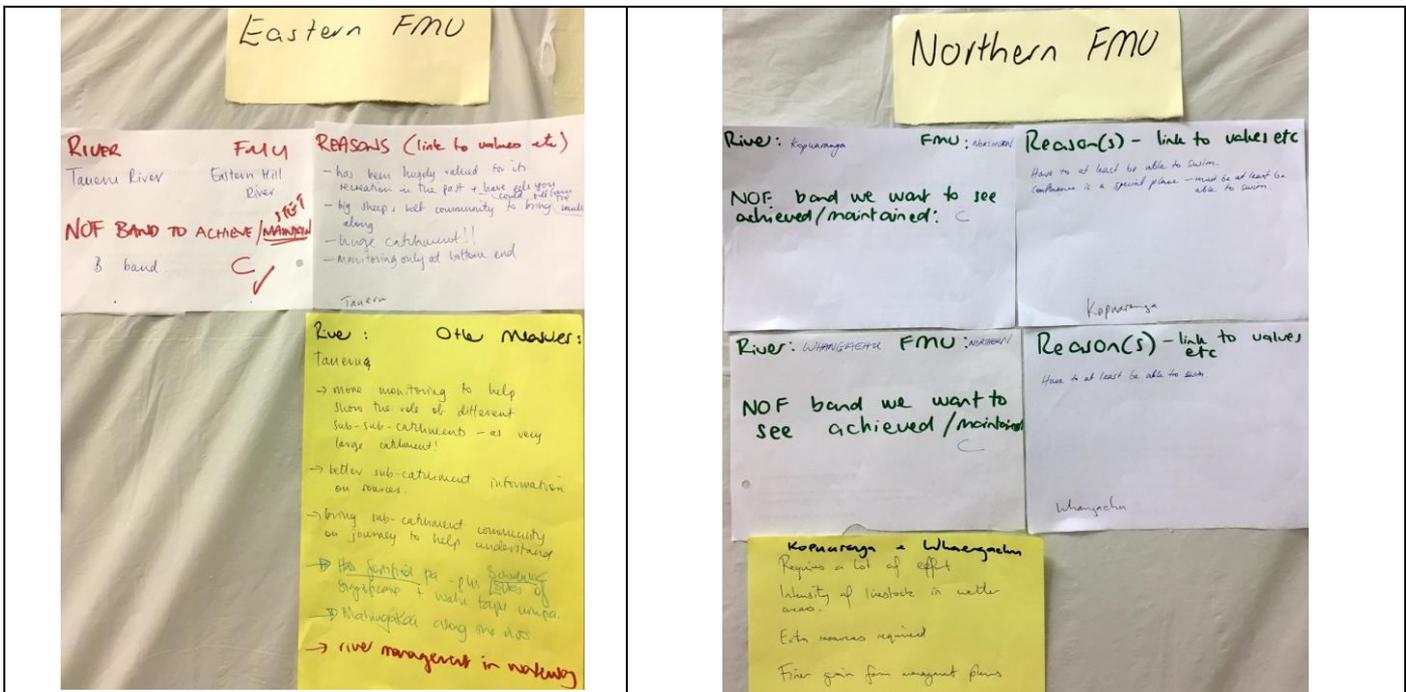
River	FMU:	Recommended E coli NOF Band:	Reason why (with respect to RW values)	Other Measures for <i>e coli</i>
<b>Main Stem Ruamahanga FMU</b>				
Ruamahanga at Waihenga	Main Stem Ruamahanga	A (Maintain)	- No higher grade!	<ul style="list-style-type: none"> <li>- On-site effluent treatment systems for lifestyle blocks – set minimum performance standards monitor and enforce</li> <li>- Sub-catchment groups to develop a more targeted approach to reducing e-coli loads than the modelled scenarios achieved (retiring class 8 &amp; 7 is a pretty blunt approach)</li> </ul>
Ruamahanga at Pukio	Main Stem Ruamahanga	B (Maintain)	<ul style="list-style-type: none"> <li>- Even Gold scenario does not shift grade</li> <li>- Too difficult to raise to A</li> </ul>	
Ruamahanga at Gladstone	Main Stem Ruamahanga	C (improve)	<ul style="list-style-type: none"> <li>- C is national bottom line</li> <li>- Not happy with a C (up from D)</li> <li>- But, even Gold Scenario does not shift the grade from D to C, so caught between a rock and a hard place!</li> </ul>	
Ruamahanga at Wardells	Main Stem Ruamahanga	B (improve)	<ul style="list-style-type: none"> <li>- Want to improve to a B because of the flow on benefits to downstream reaches</li> <li>- Popular swimming spots immediately downstream (Cliffs)</li> <li>- Mahinga Kai collection area downstream also</li> <li>- ** Achieving a B will require actions beyond what we modelled in Gold Scenario e.g. addressing lifestyle block on-site effluent treatment</li> </ul>	
Ruamahanga at outlet to Lake Wairarapa	Main Stem Ruamahanga	B (maintain)	- Unrealistic to raise it to an A!	

Final consensus agreement on freshwater objective bands for *E.coli*

Freshwater management unit	Freshwater objective band
Parkvale	C (Improve)
Otukura	C (Improve)
Kopuaranga	C (Improve)

Whangaehu	C (Improve)
Tauanui	A (Improve)
Turanganui	B (Maintain)
Taueru	C (Maintain)
Huangerua	B (Maintain)
Makahahaka	B (?)
Upper Ruamāhanga	C (Improve)
Waiohine	A (Maintain) Waingawa
Waingawa	A (Maintain)
Waipoua	A (Maintain)
Mangatarere	B (Improve)
Waiohine	A (Maintain)
Tauherenikau	A (Maintain)
Ruamāhanga - Waihenga	A (Maintain)
Ruamāhanga - Pukio	B (Maintain)
Ruamāhanga - Gladstone	C (Improve)
Ruamāhanga - Wardells	B (Improve)
Ruamāhanga – Upstream of Lake Wairarapa	B (Maintain)

## Appendix 2: Photos of flip charts



# Aorangi River

River: Taumai  
 FMU: Aorangi Rivers  
 NOF BAND to achieve/maintain  
 D → A

REASONS (link to values etc)  
 - Significant sites for Māori - Puke River Pa  
 - Recreation: Piriona community swimming hole in Taumai Area for 40 years  
 - Public Health: Piriona water supply taken from well by Taumai River. B contaminated with e coli last two years  
 - water catchment (in respect of Shire) water supply to not being used (due to change of catchment)

RIVER: Turangamui  
 FMU: Aorangi Rivers  
 NOF BAND to achieve/maintain  
 B (for treatment) - serious degradation last few years & we driving up new bridge (to Lake Fern) most submersed (probably better affected by water) (at least last few years) Turangamui

REASONS (link to values etc)  
 - Significant sites for Māori - Ngapuhara Pt site near Whaitua town Road. Old wharf grounds whaitua town Road.  
 - Recreation use: swimming hole & fishing  
 - Traditional whakapa kai - tangi gathering water class  
 Turangamui Good being for track

River: Taumai/Turangamui  
 Other means (1)  
 - Land management setback distance for strip grazing / feed pads from rivers  
 - water restrictions @ minimum flow (both rivers drying up - will be exacerbated by climate change)  
 - Photo management (not a must)  
 - Low flow

# Western FMU

River: Waiohine  
 FMU: Waiohine  
 NOF band to achieve/maintain  
 A

Reason(s) why - link to values  
 Highest grade already  
 Waiohine

River: Wai Pouni  
 FMU: Wai Pouni  
 NOF band to achieve/maintain  
 A

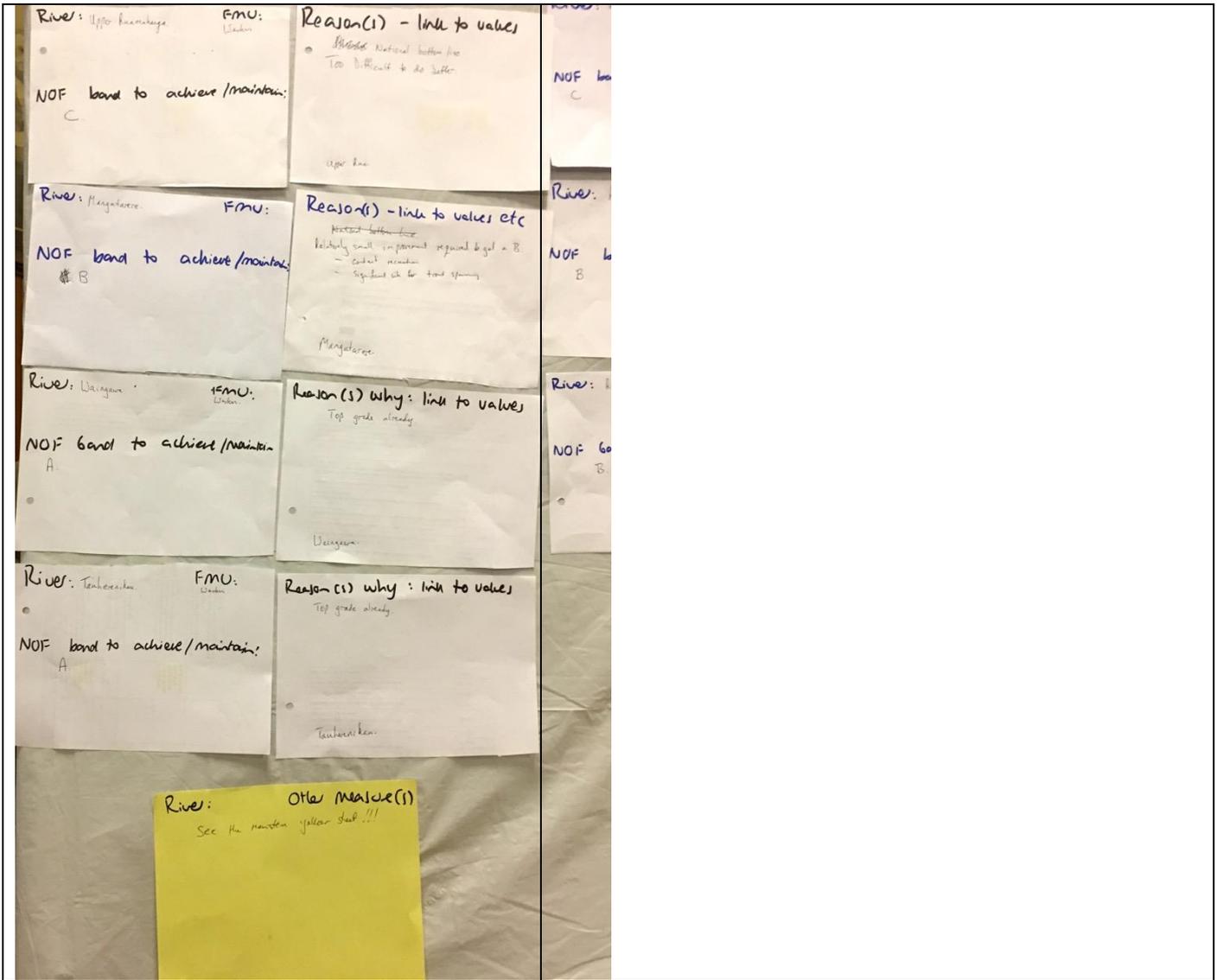
Reason(s) - link to values etc  
 Head water catchment - want to be kept in good condition in use catchments to achieve benefits downstream  
 Close to population centre  
 Waipouni

River: Upper Kumekeke  
 FMU: Wai Pouni  
 NOF band to achieve/maintain  
 C

Reason(s) - link to values  
 Abolished National bottom line  
 Too difficult to do better  
 Upper line

River: Mangataere  
 FMU: Mangataere  
 NOF band to achieve/maintain  
 B

Reason(s) - link to values etc  
 protect bottom line  
 Relatively small in present regard legal - B  
 - catchment remains  
 - Significant site for trout spawning



# Main Stem Ruamāhanga

NOF band to achieve/maintain B

flow on benefits to downstream reaches  
 Popular swimming spots immediately downstream (C/M)  
 Making Kai collection area downstream also.  
 \* Activating a B will require actions beyond what we modelled in Gold scenario eg allowing ~~...~~ <sup>W/S of B</sup> ~~...~~ <sup>on W/S</sup> efficient treatment.  
 Rua @ Wardells.

Rive: Rua @ Waikanae  
 FMU: Main Stem Rua  
 NOF band to achieve/maintain A

Reason(s) - link to value  
 No higher grade!  
 Rua @ Waikanae

Rive: Ruamāhanga at US of Lake Waikarepo  
 FMU:  
 NOF band to achieve/maintain B.

Reason(s) - link to values etc  
 Unacceptable & raise it to an A!  
 Ruamāhanga at Lake Waikarepo

Rive: Ruamāhanga at Pakio  
 FMU:  
 NOF band to achieve/maintain B.

Reason: incl link to value  
 Even Gold does not shift grade. Too difficult to raise to A.  
 Rua @ Pakio.

Rive: Other measures  
 Consider different treatment options for 1st high block  
 - see maximum performance treatment zone  
 treatment and extent  
 Sub-catchment groups to develop a more targeted approach to achieving a C or leads than the national scenario achieved (looking around 70% in a priority block approach)  
 W/FMU  
 JN

Rive: Ruamāhanga @ Gladstone  
 FMU: Mainstem Ruamāhanga  
 NOF band to achieve/maintain C

Reason(s) - link to value  
 C is natural bottom line  
 Not happy with a C (up from D)  
 But, even Gold scenario does not shift the grade from D to C  
 So, caught between a rock and a hard place  
 Rua @ Gladstone

Rive: Rua @ Wardells  
 FMU: Mainstem Rua  
 NOF band to achieve/maintain

Reason(s) - link to values etc  
 Want to improve to a B because of the flow on benefits to downstream reaches

# Valley Floor FMU

River: Portvale  
 FMO: Valley floor streams  
 NOI: Band to achieve/maintain  
 C (improve)

Reason(s) why - like to value  
 Not a high recreation area  
 Discharge via Pungahunga to reach C or above  
 Only drinking water for stock - no public water supply  
 Address its collection  
 Concentrate change when high rainfall - 95% possible  
 Otuwhero (similar to Portvale)

River: Otuwhero  
 FMO: Valley floor streams  
 NOI: Band to achieve/maintain  
 C (improve)

Reason(s) why - like to value  
 Not big recreation area - mostly private land  
 Used to be a peat site - changed post 1855 earthquake  
 - not in scheduled sig areas  
 Going to take something other than modelling mitigations to reach C band  
 Portvale/Otuwhero (similar to Portvale)

River: Portvale  
 Other Measures  
 Wetlands  
 Management - set back for more extensive land use from depressions or waterways  
 e.g. strip grazing water caps  
 Riparian plant that opens - could also help create to deal with periphyton problem  
 How water grazing is dealt with  
 Stock management

Improvements  
 Working them all right through??  
 Other methods ?? helpful to see  
 Clim change question? Did this help

Two FMU's	{	Aorangi Rivers	/Chris /Mike B
		Northern Rivers - kop	
Two FMU's	{	Eastern "Taw"	Russell / Colin / Estle
		Valley Floor - Portvale	Vanessa / Mike A / Peter
		Main stem	Ron / David / Aislinn
	}	Western	" " "

RWC Workshop 51  
24-10-17 Purposes

- ⑥ Process from here till Christmas
  - F.W. Objectives
  - Confirmed policy package
- ⑦ E. coli modelling results...
  - ... These in the context of RWC
    - engagement finds
    - vision, values, long term outcomes
    - decision making criteria
- ⑧ Begin developing F.W. objectives for e. coli attribute for rivers in each RMU

Consensus on ①

Upper Ruamahanga	C	(improve)
Waiohine	A	(maintain)
Waingawa	A	(improve)
Waipoua	A	(maintain)
Mangatawera	B	(improve)
Waiohine	A	(maintain)
Tauherenikau	A	(maintain)
Ruamahanga - Waihenga	A	(maintain)
- Puleio	B	(maintain)
- Gladstone	C	(improve)
- Wardell's	B	(improve)
- US of Lake Wai	B	(maintain)

Consensus on ②

Parkvale	C	(improve)
Otukura	C	(improve)
Kopuaranga	C	(improve)
Whangaehu	C	(improve)
Tauanui	A	(improve)
Turanganui	B	(maintain)
Taueru	C	(maintain)
Huangarua	B	(maintain)
Makahakaha	B	(?)