

Notes of Te Awarua-o-Porirua Whaitua Committee Meeting 14.4.16

5-9pm, at Judgeford Golf Club

Summary

Contents

- Attendees
- Purpose
- Actions & general business to do

Meeting notes	2
Session 1 Introduction, welcome	2
Session 2 Community Engagement - Values phase	2
Session 3 From Values to the WIP	6
Session 4 Values & Attributes Working Group report back	8
Session 5 - CMP update	8
Session 7 - Working Groups Governance	9
Session 8 - Refining Attributes	10
Appendix 1: Demographics of Te Awarua-o-Porirua Whaitua compared to Values Identification Engagement Activity	13
https://see.govt.nz/sites/whaitua/TAoPWC%20Library/Forms/AllItems.aspx?RootFolder=%2Fsites%2Fwhaitua%2FTAoPWC%20Library%2FTAoPWC%20Meeting%20%2D%20Judgeford%20Golf%20Club%20%2D%2014%20April%202016&FolderCTID=0x0120006F1E699538ACF64ABEF63302B57C24DF&View={A76D9F98-E7E2-4FC5-B6F0-7DC95F1135C0}	13
Appendix 2: Attributes session products	13

Workshop Attendees

Te Awarua-o-Porirua Whaitua Committee:

Barbara, Diane, Jennie, Larissa, John M, Richard, Sharli-Jo, Stu (Chair), Warrick, Bronwyn

Apologies: John G, Naomi, David

Project Team:

Alastair (Project Manager), Grace, Keith, Nicci, Sheryl, Shelley, Tom, Murray

Collaborative Modelling Project Leadership Team:

Ned, Jenni, Jonathan, Mal, Chris, Hepa

Workshop purpose

The purposes of this workshop were to:

1. Committee complete the attribute-identification process (for Hauora Kaiao – Ecological Health)
2. Committee talk through and decide process for V&A WG to do leg-work identifying attributes (for this and other values)
3. Committee are up to date on V&A WG's and CMP's latest work
4. Committee strengthen understanding of how values cascade through WIP process, identify major areas of uncertainty they want to address
5. Committee are up dated on engagement, think about ways of measuring progress, & decide how to proceed this month
6. Committee confirm some WG governance – (WGs' memberships, Scope of Work for V&A WG,

protocols)

By the end of the night we aimed to have:

- Decision about how to proceed with community engagement
- Confirmed Scope of Work for V&A WG, confirmed memberships for WGs, any protocol ideas
- List of “black holes” in understanding whaitua process that Committee want filled
- Full set of working attributes for Hauora Kaiao – Ecological Health, or material from which good attributes can be derived by WG
- Decision about how V&A WG will do attributes work vis-à-vis Committee

The purposes were achieved except:

- List of black holes in understanding – we need to better understand the process overall
- Completing the process for identifying attributes – further session will address this
- Deciding how to delegate attributes work to the V&A Working Group (see above)

Actions and general business to do

V&A WG	For next meeting: <ul style="list-style-type: none">• Project team: change “freshwater” to “water” in Scope of work
Values	For next meeting: <ul style="list-style-type: none">• V&A Working Group: finalise Te Awarua-o-Porirua Whaitua Values statement and present for Committee approval
Refining attributes	For next meeting: <ul style="list-style-type: none">• Project team: design attributes session for Committee as per requests• V&A Working Group: undertake initial work on another value’s attributes and report back

Meeting notes

Session 1 Introduction, welcome

Stu welcomed the guests to the meeting – some known to the Committee (Ned, Jenni, Jonathan, Mal from the CMP leadership group, and Tom from Greater Wellington), and some new – Chris Batstone (new economist for the CMP), Hepa Potini (Ngāti Toa’s representative on the CMP), and Murray McLea (policy analyst for GW).

Session 2 Community Engagement - Values phase

Shelley Elliott (TAOP Whaitua Project Advisor, Greater Wellington) and Tom Croskery (Community Engagement Team Leader, Greater Wellington)

See handouts in Whaitua Committee shared workspace – Update on engagement and Bang The Table results, and whaitua population demographics mapped vs engagement activity

Shelley gave a brief presentation updating the Committee on the latest results from Bang The Table (502 people’s input) which now included all surveys completed by 12 April 2016.

- Bang the Table will stay open for a couple of weeks beyond the end of April but there’s no more active engagement planned for this phase.
- There will be four static displays (a new TAOP whaitua poster plus brochures) in community spaces (libraries, supermarkets, sports halls) around the whaitua for the next 4 weeks
- More detail was available in the handout (over dinner).

Context, purpose and assessing engagement for Te Awarua-o-Porirua Whaitua - Tom Croskery
(Community Engagement Team Leader, Greater Wellington)

See presentation in shared workspace.

The purpose of this session was to enable the Committee to think in a structured way about engagement from this phase, consider engagement going forward, and decide if they were comfortable to wind down activity this month.

Tom gave a presentation on ways to think about engagement and whether we have done enough. It included a reminder of the purposes of Phase 1 (values Identification) engagement for Te Awarua-o-Porirua Whaitua:

- 1. The range of values that the community hold in regards to water within the catchment attribute to water are identified to the Whaitua committee*
- 2. People within the catchment (and outside it) have had an opportunity to contribute to the initial discussion about water values*
- 3. People within the catchment (and outside it) are generally aware of the role of the Whaitua process in regards to water*
- 4. The Whaitua committee have confidence that they have gathered a sufficient cross section of views, supporting further work*

Key points from Tom's presentation follow.

Outcome for engagement: subjective measure

- Engagement is hard to measure quantitatively but there are several ways we can be rigorous about assessing what we've done and whether it's working.
- This Committee is key to engagement in this whaitua process: fundamentally whether we have done enough is the Committee's call.
- The measure is whether the Committee
 - **feel confident that you've got a decent handle on how the community values water**, and
 - **feel comfortable winding down the community engagement for this phase.**

Engagement to understand values

- There's an analogy of your engagement work in thinking about changing speed limits in a suburban centre. The ultimate question might be "what should the new speed limit be?". But the challenge for people in your position would be to understand enough about what that community values – be it speedy trips, or neighbourhood amenity, or walking and outdoor cafes, or convenient parking, or safety.

Enables parameters to be identified

- Once that group has a decent handle on what their community values, they are able to (e.g.) say "for this community, 80km and 5km/hr are totally out of the question; 70km and 10km are pretty "out there" but not ridiculous, and anything between could be a viable speed for this village."

Committee – feeling comfortable?

- That's what this exercise is about – not measuring scientifically scope of engagement, it's about examining your comfort & feeling of confidence
- Have you heard enough, to be able to carry that into the next phase?

Quick assessment: confidence

The Committee then did a brief “spectrum of confidence” exercise. The purpose of this was to visualise Committee members’ *current* confidence they have a pretty good handle on the breadth of this community’s values in water.

Spectrum range

- Confidence level 1: feeling really uncomfortable, low confidence, we really need to understand more
- 3 – feeling OK, we could definitely do more and get more knowledge, but just enough confidence at a pinch;
- 5 – feeling pretty relaxed, generally confident ; we’ve got a good handle on it overall

There was a cluster of members between 3 and 5, and a couple of people below 3.

Measuring engagement

Noting the distribution of members’ confidence, Tom then led the committee in a discussion based around three key measures for engagement based on the incoming data.

- These measures come from good practice standards for community engagement and from the Te Awarua-o-Porirua Whaitua Engagement Plan
- In terms of incoming data, at 14.4.16 502 individual responses had been received from the Te Awarua-o-Porirua Whaitua community and a few more may trickle in.
- This is a statistically representative sample given the population of Porirua, and a respectable return rate.

Demographics – is the sample of respondents representative?

- While the Committee was never aiming to get a formal statistically representative sample of the Porirua community, general representativeness has always been crucial.
- This is rooted in the Engagement Plan purposes 2 & 3 for this phase’s engagement.
- The question for Committee is: Are the views you have heard skewed by a disproportionately higher or lower engagement with one type of person or perspective? In other words, are there lots of “unders and overs”?

Engagement activity: broadly representative

- The engagement activity, and the demographic data available to us (inevitably limited) has been compared with the census-based demographics of Porirua. On initial inspection this summary (assumptions biased) shows a favourable correlation to overall demographics of the catchment.
- When compared to BTT results the stats show a close resemblance to actual population age ranges (BTT survey did not ask questions about ethnicity). This too is a favourable indication. This information is available in more detail in the handout (see Appendix 1)

Startling or unexpected ideas?

- This question and the following one are sourced in Engagement Plan purposes 1 & 4. The question here for the Committee is whether there’s any major novelty coming through in what we’re hearing – any major revelations?

Is the full range of views broadly

- For each of the three questions we asked people about values, is the Committee reasonably comfortable we understand where the outer

understood?

limits of the range of answers?

- In other words, how likely is it that we will hear something outside that range if we do more engagement?
- To use a different analogy, asking about what shape people think the earth is, we've heard a range from "it's a perfect sphere" to variations on "oval". How likely is it that we'll hear that someone thinks it's a rectangular shape?

Quick assessment: confidence

The Committee redid the brief "spectrum of confidence" exercise, with the option of 0.5s if people wished.

The distribution had changed a little from the first spectrum:

- The two outlier members with confidence levels <3 in the first round had moved towards the larger body of members' positions, around 3.5 or 4.
- Some members who previously had been in the region of confidence level 4 had moved up (had a higher level)
- All Committee members were now distributed in a cluster between the 3 and 5.

Members commented that this was because they were now more informed about the engagement, and about how to think about it. The two members who had previously been <3 confidence were challenged that they were just bowing to peer pressure, but said that this was their choice having heard Tom's presentation.

Free ranging discussion followed, with Tom facilitating around the three questions and whether or not the Committee felt comfortable winding down the community engagement for this phase. Key points are below.

Range of views – different at different events

- The full range of views on all values was rarely heard at any single event, (people tended to say more answering some questions than others). So some Committee members were concerned that (e.g.) there was too little information on the value Ki Uta Ki Tai.
- However other Committee members had attended events where the respondents' values information had different emphases. (e.g. access and ki uta ki tai came up a lot at Hongoeka Festival).

Geographic representativeness OK?

- There was some concern that the northern end of the catchment (Pukerua Bay) hadn't been sufficiently heard from.
- Some members noted a good number of Pukerua Bay people at the Hongoeka Festival.
- There was also concern that the rural community was relatively silent.
- People noted that;
 - It's questionable whether further engagement with the rural community will reveal new information.
 - the rural community has had plenty of opportunity to respond (see below)

Ethnic representatives – OK?

- There was some concern about the absence of input from the southern suburbs. (see below)
- Ethnicity data are weak because we didn't ask that (through either medium)
- It would've been hard to get people to answer more questions (in person not much easier than on the web or by post)
- Age-based distributions map reasonably well between census and BTT content

This phase engagement: less activating

- The nature of the questions for this phase probably means people are less likely to respond, as there isn't anything practically affecting them yet – they are more likely to respond later in the process when (hypothetical) impacts are clearer.
- Far more people than those who responded would have been aware and had the opportunity to give input, but chose not to.
- This isn't necessarily a bad sign.

Winding down engagement – OK?

- The Committee are comfortable to wind down the Phase 1 / Values Identification engagement and not do any further activities (besides the unmanned stations and visits / engagements already booked).

Informal information – what to do?

- Many long and rich conversations with Committee members have been had which go far beyond what those people put in BTT or on a form.
- Some conversations also have a strong “vibe” which is hard to articulate in written / comment form.
- Some of this is stored by being in members' heads, but need to consider ways to share that information amongst Committee. Could be informal – will think about this.

Lessons for next engagements

- Comms weren't strong and engagement needs to be better served – probably contributed to low turnouts in some places (e.g. most recent engagements).
- Lots of good insights came from Committee members late in the piece – need to get these in earlier
- Committee members personally fronting engagement is great – people respond well
- Festivals are great – e.g. ~ 350 responses from festivals (Festival of the Elements, Hongoeka Festival, CreekFest) but lots of ways we can do better.

Looking ahead – what do we do?

- Committee will make the decisions about next engagement– what we go and ask the community, and why, and how.
- Need guided session on engagement planning - expert input (Tom)
- What we do next should be dictated by what we need to achieve – more structured / planned
- Committee need to gather lessons from this phase's engagement – need to harvest these from people's heads
- Decision about when / what happens in the next engagement needs more understanding of the process, but don't leave it too late (next engagement will be more tangible (“less airy fairy”) than the values identification therefore more people will want input)

Session 3 From Values to the WIP

Alastair Smaill, GW

See presentation in Whaitua Committee shared workspace

The purpose of this session was

1. to strengthen understanding of how values and attributes cascade through WIP process (this will be one of a series of such sessions) and

2. identify any particular areas of uncertainty for you at this point that the Committee wanted to understand better.

Disadvantages of linear / top-down process

- Going through the water policy process linearly from values to attributes to objectives and so on (left to right on diagram) is not amenable to consensus.
- Values are relatively easy to agree as they're high-level, and attributes are more difficult but still comparatively uncontroversial, but objectives are where process breaks down.
- Generally such processes grind to a halt in deadlock around objectives.
- Starting at the bottom end (specific methods and activities) and working up is equally fraught and likely to deadlock, because of no agreement on the "big picture" of what's valued.

Bottom-up and top-down can help

- A solution is to do both bottom-up and top-down work at once, because this:
- helps to understand the practical implications and feasibility of different values-driven approaches to objectives, policies and methods
- helps ensure that ground-level choices about methods / actions are not "precisely wrong"
- Policy packages and scenarios are two ways we'll be combining bottom-up information on methods with values and attributes to consider ways forward.

Working from both ends of policy process

- The key question is how to have a good discussion that progresses and can achieve consensus at any given point in the whitua process.
- For example: in a conversation about objective, information about the costs and benefits of different actions make a huge difference to how informed that discussion is.

Policy packages and working groups

- Policy package working groups (Sediment, Rural Issues, Stormwater and Wastewater, and Urban Development) will be looking at policies and methods.
- Policies are descriptions of what we're going to do and how - e.g. "reduce the amount of algae in rivers by limiting the amount of nutrients going in."
- Methods are the actions we'll do. We have only three options: Regulation; Education; Investment. Each has multiple variations by scale, who, when and so on.

Using scenarios

- Scenarios enable the policy packages to be refined – e.g. by asking
- "If we propose these policies and actions (e.g. limiting nutrients and educating people),
- Will we achieve what we want? (e.g. swimmable quality everywhere)?"
- Scenarios give us useful information whether the policies & actions will or won't achieve the objective, and also other practical implications such as cost.
- We can also ask (e.g.): "tell us what this particular policy (e.g. stock exclusion) will do in this catchment " and get information about its effects.
- Management scenarios also enable a discussion on the breadth or range of people's desires – from "lots of change is vital" through to "minimal change is vital"
- Scenarios are also where we will (re)integrate policy work done in the different working groups, which is vital (our divisions into the four

policy packages and working groups are artificial)

Final points

- We used “freshwater” in the discussion and the diagrams include “freshwater objectives” etc, but all this applies to salt water as well, so henceforth “water” will be used.
- The Committee makes all its decisions by consensus, so nothing will be done out of this whitua process that is not agreed by the whole Committee.
 - However if the Committee is unable to do so, Greater Wellington will make the decisions (as its statutory obligation and mandate).

Session 4 Values & Attributes Working Group report back

John McKoy (Committee member on V&A Working Group)

John McKoy gave a verbal update to make Committee aware of V&A Working Group’s progress

Logistics

- The working group has had two meetings so far
- The next is on 29th April at Takapuwahia
- Quorum has been tricky – Alastair will speak to this next.
- The group has taken Sheryl’s material from the community engagement and made a matrix to look at

Work to date

- Whether and how each value statement and description expresses what people have said to us through the engagement process
- If there are any new values we haven’t heard
- The group has also fiddled with the wording and descriptions where required (minor changes mostly)
- They are pretty happy with how it’s been refined so far – the values look good.

Work ahead

- Jennie is giving a hand with the te reo language
- When the group feel things are about right they will present the values document back to the Committee for approval.
- This will be hopefully the 19th May meeting.

Session 5 - CMP update

Ned Norton (CMP Leadership Group)

Ned gave a presentation to update the Committee on the CMP work.

Group updates

- The CMP Leaders enjoyed their fieldtrip around the whitua – special thanks to Sharli for her help.
- Chris and Hepa are now on the Leadership group
- The CMP leaders are finding it very useful to sit in on whitua committee meeting

Work updates

- The CMP are getting started building the modelling suite that meets the Committee’s needs.
- This involves (amongst other things) identifying a shortlist of good-looking models which are likely to be useful. Ned is happy to send the list to any modelling geeks on the Committee.
- There’s a chicken-and-egg element because the CMP crew are largely

guessing what the Committee will want modelled, but this is OK – and an important part of the process.

- The key is to keep communicating with the Committee and listening to where they're heading.
- CMP will give their best shot at serving the Committee's interests – noting that they won't be able to model all the Committee's attributes, but many may be part of a future monitoring programme.

CMP vis-à-vis Committee

- The best way to describe how the CMP is working vis-à-vis the Committee is:
Two teams, tunnelling towards each other.
- The CMP will keep listening to the Committee and ensuring that their respective work meets up in the middle.
- The CMP working group will start soon – before the CMP leadership Group get too far down the track.

Questions

- There were some questions from Committee about modelling expertise vs representation on the CMP leadership group.
- It was noted that the Māori values need to be correctly applied and incorporated in modelling and there is a risk for this to be done poorly as it is a less familiar epistemology (especially compared with physical science, and to some extent with social science).
- Various roles are still being finalised and there are discussions happening at the moment – there is scope to complement different kinds of expertise.
- Jennie will provide Ned the names of some experts in modelling Māori values, as there is a rich body of work to draw on (including by Ngati Toa over several years).

Session 7 - Working Groups Governance

Alastair Smail, Whaitua Project Manager (Greater Wellington); Stu Farrant (Chair)

See WG memberships list, V&A WG Scope of Work in Whaitua Committee shared workspace

This session was to work through some issues with working group governance and get Committee agreement on ways forward.

Key points from Alastair and Stu's presentation and the subsequent discussion are below.

Working Group memberships

- The Committee approved the membership lists, with explanations of who was on from the PT side
- Sediment and Rural Issues WGs will start later than the others
-

Scope of Work for V&A WG

- Scope of work (SoW) – an appendix to the WG's generic ToR, which sets out what's specific to this WG (outputs, membership, any particular ways of working)
- There was an important misconception about this WG's role which was clarified:
- **It is the Whaitua Committee's job to set objectives for water**, as a major decision - this is not the WG's role.
- This SoW's creation process will be the same for all WGs – group

creates it, and brings to Committee for approval.

- Some issues are being thrown up by last few weeks' WG operations, which will apply to all WGs and perhaps mean tweaks to generic ToR.

ToR issue

- It has been hard to achieve the quorum set out in the generic ToR for all working groups (majority of Committee WG members present).
- Committee decided to stick with quorum as it stands, and each WG will work out the best way to get members meeting.
- Committee may review the quorum if needs be.

Transparency and communications

- Alastair noted that transparency / line of sight for Committee to any WG is important. At the same time it is easy to get very bureaucratic and document-heavy. He proposed some principles for operating:
- Documents going from WG to whole Committee need the WG's approval, then final signoff by AS (checking that everything is legal).
- Working Groups will operate in the shared workspace. There will be no emailing around documents as this is not workable.
- If anyone needs help with the workspace (and Shelley can see who you are), please contact Shelley.
- Whaitua material becomes public (goes on the public website- not to be confused with the private workspace) only once Committee has seen & agreed it.
- This means WGs' minutes do not go on the website, but reports they bring to Committee do (once approved).
- The Committee approved all these principles.

Session 8 - Refining Attributes

Alastair Smail (for Hayley Vujcich), Greater Wellington

See presentation Recap on Attributes, in Whaitua Committee shared workspace

This session was for the Committee to:

1. get a feel for the process that's involved in identifying attributes
2. create some good material for attributes for Hauora Kaiao – Ecological Health

Alastair gave a presentation on behalf of Hayley, who was ill.

What makes a good attribute?

- Relates to the value and to the issue being managed
- Can be robustly assessed or measured
- Not too costly or time consuming
- Is linked to changes in management, directly or indirectly
- Complements other objectives

What are we using attributes for?

- In order:
 1. For scenario testing
 2. To set objectives with
 3. To calculate limits
 4. To monitor into the future
- An attribute might be useful for some or all of these things...

What are we using attributes for?

	Periphyton	Cockle health	Underfoot squaligynes	Whaitua GDP	Smell
• For scenario testing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• To set objectives with	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• To calculate limits	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• To monitor into the future	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

After this, the Committee split into two groups with CMP leaders and project team. Each group took the longlist of attributes they had created at 17.3.16, and over 50 minutes worked through questions to knock out attributes that weren't fit for purpose.

The questions were around these themes:

- *What makes a good attribute?*
- *What attributes are important to the Committee?*
- *What will we use different attributes for?*

The aim was to reduce the long list to a smaller number (10-15 was the goal) which would describe all the key aspects of Hauora Kaiao – Ecological Health.

The groups came together to report back and compare their lists.
The two sets of attributes are reproduced here, with photos in appendix2.

Group A

- Sedimentation rates
- Sedimentation content/type
- E.coli
- Heavy metals
- Clarity/suspended solids/turbidity
- Dissolved oxygen
- Nutrients
- Nitrate and ammonia toxicity
- Periphyton
- Phytoplankton
- Mahinga kai:
 - abundance
 - condition
- edible
- presence
- native freshwater fish
- fish/shellfish
- temperature
- seagrass
- ulva
- MCI
- Birds (need more info)
- Habitat (catchment scale index)
- Flow

Group B:

GAPS - Hydrocarbons?

Key Attributes (gut feeling)

- Sediment toxicity
- Sedimentation rate
- Substrate – muddiness
- Indicator species
- Clarity
- Water temperature
- N&P
- Vegetation
- pH
- Algae
- Salinity
- Phytoplankton
- Suspended sediment
- MCI
- Native fish presence
- Shellfish abundance
- Birds
- Heavy metals
- Biodiversity Index
- Taonga species
- Connectivity b/t fresh and seawater
- Fish passage and dissolved
- Periphyton
- N&P
- Phytoplankton
- Periphyton
- Flow
- Habitat
- Riparian
- Shade and cover
- plus
- Dissolved oxygen
- Periphyton
- N & P
- Phytoplankton
- Periphyton (?)

Both groups struggled to reduce the numbers of attributes, though Alastair noted they had done a better job than many groups.

Discussion followed the report backs, and the key points included:

Unpacking attributes

- Committee need to understand / be specific what is meant by attributes in the longlist – there are more “onion layers” to unpeel for most.
- Need an exercise to look at whether many of the attributes are in fact attributes, or if there’s more bundled in with them at present.

Technical information needed

- This made it hard to consider how we would use the attributes because they weren't sufficiently specific.
- There were questions that needed work by experts in various fields – such as:
 - Can water column pollutant (concentration / parts per million) attributes be used as surrogates for “sediment toxicity” attributes?
 - Are indicator species the same as keystone species? If not how should we use these?

Overlaps between values

- One group noted that they hadn't included attributes relating to mahinga kai or e coli because these would be definitely included under other values (Kai Kete – Food Basket and Ka Taea e te Tangata – Accessibility and Recreational).

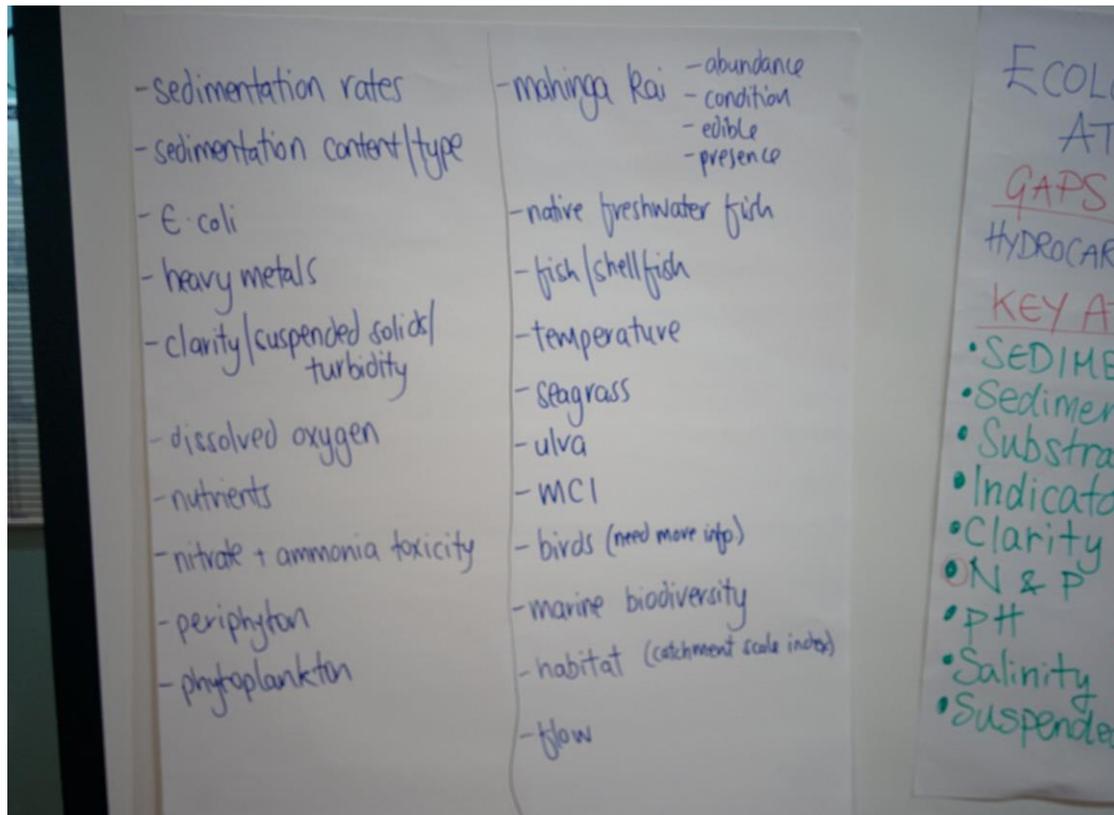
Further work

- This is hard and complicated!
- The Committee want to go deeper into the process, with another full-committee session on attributes, including:
 - more information from experts
 - more discussion and unpacking of what we meant by different attribute descriptions
 - identifying what it is about [attribute x] that makes it an attribute – and ensuring all attributes function as such
- While Committee are still holding attributes work and are not in a space to delegate anything substantive to the Values and Attributes WG, the WG can help give a head start doing some work identifying attributes for other values.
- For these purposes, the WG will use the Te Awarua-o-Porirua Whaitua values statements as they stand.

Appendix 1: Demographics of Te Awarua-o-Porirua Whaitua compared to Values Identification Engagement Activity

<https://see.govt.nz/sites/whaitua/TAoPWC%20Library/Forms/AllItems.aspx?RootFolder=%2Fsites%2Fwhaitua%2FTAoPWC%20Library%2FTAoPWC%20Meeting%20%2D%20Judgeford%20Golf%20Club%20%2D%2014%20April%202016&FolderCTID=0x0120006F1E699538ACF64ABEF63302B57C24DF&View={A76D9F98-E7E2-4FC5-B6F0-7DC95F1135C0}>

Appendix 2: Attributes session products



ECOLOGICAL HEALTH ATTRIBUTES

GAPS?

HYDROCARBONS

KEY ATTRIBUTES (gut feeling)

- SEDIMENT TOXICITY
- Sedimentation rate
- Substrate - muddiness
- Indicator species
- Clarity
- N & P
- pH
- Salinity
- Suspended sediment
- water temp
- Vegetation
- Algae
- Phytoplankton

- Reflects value
- Measurable
- leads to objectives
- limits
- Can monitor

KEY AT

- MCI
- Native
- Shellfish
- Birds
- Biodiversity
- Taonga
- Connect
- Fish p
- Flow
- Habitat
- Riparian

Reflects value
measurable
leads to objectives
limits
can monitor

(gut feeling)

KEY ATTRIBUTES (gut feeling contrast)

- MCI
- Native fish presence
- Shellfish abundance
- Birds
- Biodiversity Index
- Taonga species
- Connectivity b/t fresh & seawater
- Fish passage +
- Flow
- Habitat
- Riparian
- Shade & cover
- Dissolved O
- Periphyton
- N & P
- Phytoplankton
- Periphyton