

## FLAG MEETING NOTES: 17 November 2014

**Purpose:** Waimea Plains Freshwater and Land Advisory Group (FLAG)– Meeting 6

**Date:** 17 November 2014

**Time:** 9.00am-12.30pm

**Venue:** TDC Council Chambers

**Present:** **FLAG members:**

Nick Patterson (chair)

Mirka Langford

Philip Woollaston

Gavin O'Donnell

Pierre Garguilo

Lawson Davey

Andrew Kinnimoth

Dean Rainham

**Staff:**

Mary-Anne Baker (Environmental Policy Planner)

Lisa McGlinchey (Environmental Policy Planner)

Joseph Thomas (Resource Scientist – Water)

Glenn Stevens (Resource Scientist - Water & Land)

Trevor James (Resource Scientist – Environmental Quality)

**Apologies:** Martin Rutledge, Heather Arnold, Matt Hippolite, Zane Mirfin

**Notes taken by:** Pam Meadows (supplemented by other staff)

**Definitions and Abbreviations** FLAG=Freshwater and Land Advisory Group

NPSFWM= National Policy Statement for Freshwater Management 2014

NOF= National Objectives Framework

TRMP = Tasman Resource Management Plan

**Unconfined aquifer** = are those where permeable strata are open to the ground surface.

Surface water (rainfall and/or river flow) is able to seep from the ground surface directly to the aquifer.

**Confined aquifer** = are those where permeable groundwater bearing strata are separated from the land's surface by an impermeable layer (such as silt or clay) that prevents surface water from directly seeping into the aquifer. Groundwater migrates to confined aquifers from an unconfined recharge area located elsewhere.

AGUA= Appleby Gravel Unconfined Aquifer

UCA=Upper Confined Aquifer

LCA= Lower Confined Aquifer

*Note: records of discussion points have been grouped into similar topics and are not necessarily in the order discussed at the meeting.*

**FLAG MEMBERS PLEASE NOTE:** If you have any questions or need anything between meetings, then please contact Mary-Anne Baker by email: [marya@tasman.govt.nz](mailto:marya@tasman.govt.nz) or by phone ddi 03 543 8486.

## **Session 1 – Issues Arising and Benchmarking Update**

### **Confirmation of previous meeting notes and issues arising from Meetings 4 and 5**

Moved Gavin O'Donnell/Andrew Kinnimoth

THAT the meeting notes of Meeting 4 held on 15 September 2014 be accepted as an accurate reflection of the meeting.

CARRIED

The Chair asked if any items needed clarification, etc. Mary-Anne advised that staff Action Points 1, 3, 5, and 7 - 10 had been completed but that the following items were yet to be done:

1. Run an Overseer example at a future FLAG meeting.
2. Consider need for an overview of Tasman Growth Supply and Demand Model to FLAG at a future meeting.
3. Consider alternative ways of communicating existing water quality data spatially.

These were to be discussed again at the next meeting.

Moved Philip Woollaston/Nick Patterson

THAT the meeting notes of Meeting 5 held on 17 September 2014 with HortNZ be accepted as an accurate reflection of the meeting.

CARRIED

The Chair expressed appreciation for the good notes and good summary of a very productive meeting.

### **Issues arising from meetings 4 and 5**

None.

### **Benchmarking Project Update on Progress - Dean**

The Chair requested an update from Dean on the progress of the benchmarking project. Dean advised:

- he had been surveying a cross-range of growers on Waimea Plains, looking at nutrient and water use across all crops and soil types
- he was still to complete the ones for grapes
- growers had been very helpful, willing and very free with their information
- growers were keeping very good records
- it had been a very useful exercise
- he would be feeding the information back to HortNZ who will analyse it and then report back, aggregating the information
- grower information is being kept confidential
- project is well down the track
- hoped to get reports back to TDC before Christmas 2014.

The Chair stressed the need to make sure the information is kept confidential.

#### **Do we need individual information?**

*Probably not, but may need some once we get base data and can see whether or not there is any requirement for more detailed information.*

### **Council report back – Nick P**

#### **Where are we at with what Council expects?**

- *Council is looking for a very pragmatic view. A very brief report. Concern may be looking at something too detailed. Not trying to achieve everything in the process.*
- *We know from NPS there are 'must dos', desirables and 'nice-to-haves'. Need to sit back a little and review what are 'nice-to-haves', etc and where we sit today with all those with a view to maintain or improve where necessary. Make it the very best we can.*
- *Until we know where we at, we can't decide 'must dos' and 'nice to haves'.*
- *'Must dos' are clear from the NPS. Lot of others we can take on at various levels.*

- *A struggle where to put focus when we don't know where we are at.*
- *If something needs more work, need to move on and then see what needs to be filled in. If we don't fill that framework, we can spend a lot of time on it and it may not float.*
- *Pick up big issues and come back to smaller ones.*
- *Put cultural and spiritual list later as may not agree on issues.*

## **Session 2: Water Quality Attributes**

### **Presentation 1: Water Quality Attributes – Trevor James**

Trevor James gave a presentation on water quality attributes, giving an overview of each attribute and what is important about each.

Attributes covered: water temperature, dissolved oxygen, water clarity, nutrients, disease causing organisms, periphyton, cyanobacteria, stream habitat score, pesticides, low flows.

#### **Questions and comments arising from the presentation:**

##### **Is the effect of shading [on temperature and dissolved oxygen levels] a linear effect?**

*Yes, in most situations at the sub-catchment/river segment scale. This means that generally an increase in the percentage shading over a stream for lengths of several hundreds of metres will result in a cooling that is in proportion to this increase. However, there are many factors that also influence this relationship such as:*

- *Waterway size (water depth and width). Wide, open rivers cannot physically be shaded with trees or banks to the same extent as small waterways with incised channels*
- *Waterways with lots of deep pools heat up more slowly. Higher volume rivers can take longer to heat up.*

*Some spring-fed streams may not naturally contain riffles which re-aerate the water so it will be quite a way downstream before it aerates.*

*No reason why shading can't apply as an objective for all streams where temperature or dissolved oxygen would naturally transgress levels considered to cause adverse effects (ie above 21°C or below 80% dissolved oxygen saturation after discharge.*

*Note: In natural streams there's always some sunlight getting in and that is important for algal growth. There will never be 100% shading in open channels.*

##### **The NPS-NOF refers to ml/L, how does this relate to saturation? 80% saturation is how many mls/L?**

*80% saturation is about 6.5 ml/L. The council has tended to use percentage for reporting. Both are correlated.*

*The NPS also applies below point sources, but dissolved oxygen levels applicable more widely than just at point discharges.*

*MAB: The NOF has a very narrow link with dissolved oxygen at point sources only which should be subject to consent monitoring anyway.*

##### **The NOF bottom line figure is 5ml/L not 6.5ml/L dissolved oxygen - what saturation does this relate to?**

*This relates to the 60% saturation level. Adverse effects are much more significant below that level.*

*There are other things that affect dissolved oxygen levels, other than point discharges.*

##### **What about seasonal variability in dissolved oxygen?**

*Low dissolved oxygen is only a summertime problem. Outside of this, there is generally no problem.*

*Issues of high stream temperatures are more widespread in Tasman than low oxygen. Higher water temperature also increases the toxicity of ammonia and other contaminants and limits trout feeding.*

Warm temperature also more of a problem if warm over several days and nights. It is flow and shading related – downstream of where riparian trees are felled, water temperature increases significantly. This effect can occur within a few 100 metres, e.g. Templemore Pond – DO loggers upstream and downstream saw a 3 degrees rise on the hottest day.

### **Is there any data that says temperatures are getting worse?**

The only place we have done continuous temperature monitoring [and dissolved oxygen] over several years is the Motupipi River in Golden Bay (we have a season or a couple of seasons at other sites). Without long term data we can't comment on trends in temperature. It is expensive to put loggers all over region but we plan to have a network of 5-6 continuous temperature and conductivity monitoring sites within the next few years.

[note: TDC just about to install a continuous temperature recorder on the Waimea River at the nursery site – just upstream of the Appleby Bridge]

### **How do we accommodate those aspects that are naturally occurring?**

For the vast majority of cases the limits (existing or proposed) are breached only where there are human landuse effects. For parts of waterways that naturally breach these limits, these can be excluded from this management as, by definition, we do not have any control over it.

For some attributes this is taken into account. For example, for macro-invertebrates and fish it is suggested to use observed compared to expected MCI (or other metric).

### **How important is it that we measure chlorophyll-a?**

This is debateable. We have traditionally used percentage bed cover.

It is important we have at least one attribute around periphyton.

**[Post meeting clarification:** While Chlorophyll-a is identified in the NOF as the unit for measuring periphyton, we do not have to monitor it if we consider it not relevant. We suggest substituting Chlorophyll-a for percentage bed cover for the following reasons:

- % cover is easier and cheaper to measure (doesn't require additional laboratory costs).
- The natural variation in Chlorophyll-a in most rivers is very high and so the sampling effort has to also be high.
- There is likely to be less than 30% of rivers in the productive landscape that are likely to ever exceed the Chlorophyll-a limit and even then it would be for a very small percentage of the time. If we were to sample for Chlorophyll-a then it would be at a small subset of our 'State of the Environment' river water quality sites.
- The NPS requires monthly sampling and there are only nine sites in Tasman that are sampled at that frequency. To change to monthly sampling without a budget increase (which is not at all likely) we would have to drastically reduce the number of sites and greatly compromise the coverage of a reasonable range of river types and major catchments.
- % cover is more representative of periphyton growth from a visual amenity aspect at the site as the method samples a wider area of the bed.]

### **Should we bother having an attribute for something that's natural and have no control over?**

It's more about protecting what's naturally there.

### **What other rivers fall within the Waimea FLAG area?**

Need to consider the contaminant contributions from the Wai-iti catchment.

Lowland and spring-fed rivers are more susceptible to change as a result of land and water use.

### **How do we make a recommendation to Council for protecting waterway meander etc given there are already rules in place?**

This attribute is desirable and staff would recommend to keep the current protection provided. If stream habitat, of which stream meander is one aspect is a desirable attribute, already having rules is not a reason to leave it out as an attribute. For completeness we should put it in to continue protection for them.

*MAB: Ecosystem health not just dependent on water itself, but what's happening on banks, land, etc. There is a riparian strategy for linking land use activities with the water body system. We need to keep an open mind about how far we go in this process but remember there are also rules regarding contaminated discharges and activities in the beds of rivers. We already have a reasonably good framework.*

**We should be maintaining or improving the nitrate levels we currently have.**

*Groundwater nitrate can be a big issue, but it depends on what the water is used for. Higher water hardness attenuates nitrate toxicity - a natural feature that needs to be taken into account, particularly when looking at spring fed rivers.*

*We need to look at this at a ecological community level if we want to protect ecosystem values and to have numbers in the right context.*

*We've got to think long term as well. Percentages can be misused. The science we should be looking for are measures to produce long term change. The baseline we have is what is there now, not previously. What will produce a positive change is the most significant thing.*

**Do the water quality attributes relate to water flow? If water flow is good, does that mean water quality is good? When we put in some numbers [limits] does it have to relate to a particular flow level?**

*Yes, when there is a significant rate of take (usually greater than 10%) there is an increased risk of poorer water quality eg higher water temperature, increased contaminants (due to decreased dilution) and lower dissolved oxygen .*

*Issues and limits may be different for spring-fed streams (eg there is generally a greater risk of dissolved oxygen limits being breached by water takes in spring-fed streams).*

Mary-Anne asked about cultural and spiritual aspects and the use of the Cultural Health Index. Is it an attribute we need further advice on? General consensus was yes, but that this wait until Matt H was available.

### **Session 3: Value Descriptions and Management Objectives**

#### **Presentation 2 - Values Descriptions and Management Objectives – Mary-Anne Baker**

Mary-Anne outlined the process carried out to establish values, value descriptions, management objectives, and important characteristics and associated attributes for each value based on feedback from the FLAG, existing environmental monitoring and staff suggestions.

She then sought feedback and additional suggestions to:

- consider the characteristics that describe each value;
- consider and decide on key attributes (indicators) for each characteristic and what needed further work;
- consider the outcome we are looking for (management objectives and attribute states).

**The key points of the presentation and subsequent comments and questions are outlined below:**

#### **Cultural and Spiritual Values**

- This value was originally missed as an oversight under the other water bodies.
- “Cultural” is not just iwi – it resonates with all of us, e.g. provides a sense of place, or simply the opportunity to catch trout
- We need to understand the concept.
- May need to revisit this when Matt Hippolite present later on.

**We have lists as to what we must do. Should we not be going back to that? Once done, with Cultural and Spiritual values we might find 90% of the issues will be ticked off. Can't we pick off the values one at a time, the two compulsory ones and then the additional national ones which are important and look at which are the ones to take more information and time?**

*Possibly, but we have to deal with the other values, as well as compulsory ones. Look at all and then find what key attributes to measure. If managing swimming, for example, it may deal with other values as well.*

*The key is we need to figure out what values we want to protect and maintain, e.g. fishing, swimming.*

*For iwi, the health requirement is for no human sewage in water. You might say "that's too high a bar, none at all is impractical". Then we look at what is the next level down.*

**The important characteristics lists have some high level things eg 'Water is appealing' and 'water has healthy mauri'. There is a problem with absolutes – there is probably no water that doesn't contain any contaminant. It's a question of degree, e.g. "detected low level".**

*The "important characteristics" identified are not management objectives, they are an attempt to define the aspects of water that are important for the value in 'layman' terms.*

*It would be better to say that water is not contaminated.*

*This is a decision we yet have to make.*

*We need to have a conversation with iwi about this.*

*We need to establish the base of where we sit today. We don't understand the baseline for what these attributes are.*

*We need to work out which ones to concentrate on after we've gone through this exercise and to get the framework robust.*

### **Municipal and Domestic Water Supply**

- Concerns water quality that has a low risk for drinking water (with or without treatment).
- Applies to both groundwater and surface water.
- Drinking water standards include water being acceptable to the majority of water users.
- It's not recommended to take surface water directly for potable supply without treatment - can't manage risk of contamination in all surface water in a catchment to keep water at drinking water quality all the time.

**Should we be looking at surface waters? Water that is appealing is a reasonable attribute. We do need to separate in some circumstances?**

*The management objectives and attributes would need to reflect the uses of the water accounting for the different water bodies and the risk or source of contamination.*

**Some of the groundwater has high level of nitrates. Perhaps have one for surface water in rivers and one for groundwater or can we set one level for both?**

*It's the end result we are trying to manage though and limits must reflect the inter-connections.*

*Standards should apply if taking from one source or the other.*

*Depends on what we are trying to do. Drinking water has to meet the standard.*

*People don't normally treat groundwater for bacteria, but river water they probably will.*

*Need to qualify if one needs treatment and one not.*

*No human health issues have ever been recorded regarding nitrates in the Waimea Plains.*

*JT: If aquifer is clean (low bacterial levels), we could have higher nitrates (research has shown nitrates cause more health issues if there is also high bacterial contamination). There is hardly any bacteria in bores due to filtration through the ground.*

*When find look at attribute states we can identify if nitrate is a problem.*

*No need to make a decision about nitrate concentrations until more known about water uses being managed for.*

Mary-Anne displayed the “Waimea Attribute and Grade Summary” table referring to the first column on Ecosystem Health.

- Highest microbial quality requirement is in relation to swimming. (There is a need to treat surface water for drinking to manage risk of contamination anyway).
- Which state becomes the more critical one? Does it make sense to all where the decision making process goes? As we go through each, we can work out the state to manage it.
- Process is to establish desired state and where it applies and then consider present state/risks and pathway/measures to meet or maintain desired state.
- The first seven attributes are the ones we currently measure and the ones we need to put our attention to for now. They provide a bit of a framework and priorities to move forward. .

**Is there a need to look at nitrate levels to meet the need for production of apples?**

*This presents another challenge. It is possible that this will be a driver for managing nitrate levels.*

**What other industries are there that we’re not meeting the needs of?**

*Don’t know. If we add “food production”, we don’t have a problem with current quality, but something we might need to be aware of.*

*A business would need to look at its own risk and manage it. The risk of contamination in surface water for a manufacturing plant might too great for some processes. They would have to treat water to manage risks better.*

**Recreation**

Need to think about all users, e.g. toddlers need less water in which to play – smaller water bodies. Need to make sure what we do in rivers is not going to affect the coast. Swimmers set the highest bar in relation to microbial levels.

**Not best for swimming when Step 3 rationing imposed anymore**

*But that’s the time most people want to swim – a tension as to what you can manage.*

**Should we use the Step 2 trigger for swimming?**

*Negative effect wouldn’t influence so much.  
Step 2 not used in TRMP however.*

**Dog exercise (possible new value)**

- We don’t have control over people walking dogs.
- We need to add element of safety.
- Big source of e-coli is people walking dogs - particularly at high flow.
- Currently Council put notices up to warn dog owners about the cyanobacteria risk

**Do we need to manage effect a bit differently?**

*Management response is signs and pamphlet, but no specific water quality objective for dogs.*

General group consensus is that Dog Exercise did not need to be a specific value for FLAG consideration.

**Navigation (possible new value)**

**Should this value be included or is it adequately covered elsewhere?**

*Not really much of a value, but can be persuaded if evidence exists.  
Suggest putting all boating activities together, e.g. jetboating and kayaking.  
Kayaking a little different, however, as it is normal to turn upside down [ie primary contact].*

General group consensus that Navigation did not need to be a specific value for FLAG consideration.

## **Natural Form and Character (possible new value)**

- Nothing applicable in Sch. 30B at present.

### **Should we consider natural form and character as an aspect under Cultural and Spiritual values?**

*If look at Cultural and Spiritual, yes, as Natural Character is part of it to some extent.  
Lots of things can change form and character, e.g. presence of pump sheds.*

### **Do we have to be careful in considering flood events and river maintenance?**

*Probably not – some native bird habitat affected.*

General group consensus that Natural Form and Character did not need to be a specific value for FLAG consideration and could be considered under other values such as cultural/spiritual.

## **Conclusion**

Mary-Anne concluded by:

- Reiterating the need to define attributes, one of the main areas of concern are nitrates.
- Advising the need to understand states for other key attributes.
- Suggesting we work on the top 15 attributes in the 'waimea attributes and grade summary' in terms of looking at likely states for various rivers.

**Action:** MAB to collate current states for top 15 attributes for discussion at next meeting.

The Chair agreed that it was absolutely key that the current state of attributes be analysed as much as possible, so that the Group can start to make some judgement calls as to where it can pitch itself.

## ***Session 4: Project Management***

### **Public Engagement**

#### **Is anyone asking FLAG members what is going on?**

*Not really.*

*People submitting on resource consents for Waimea dam are concerned about nutrient levels of waterway.*

### **Progress against Project Plan**

A copy of what we are going over at the next meeting was requested - can start collating some of the work we are doing. Agreed to confirm and send info around as soon as possible.

**Action:** Mary-Anne to send around draft agenda for next meeting and list of work in progress

### **Confirmation of Chair**

The FLAG members confirmed Nick Patterson as Chairman.

### **Following Two Meetings Scheduling**

**Next Meeting:** Wednesday 11 February 2015, 9.30 am – 3.00 pm.

#### **Possible agenda items:**

- Information coming from HortNZ re Benchmarking Project? May need clarification. Hopefully the HortNZ report will be out before February. Will give numbers on leaching patterns. In the meantime, think about modelling nutrients.
- Public engagement question, but probably not much to share as yet.

The meeting finished at 12.35 to go on the field trip after lunch.



## Action Points – Council Staff

No.	What	Who
1	<i>MAB to collate current states for top 15 attributes for discussion at next meeting.</i>	MAB
2	<i>Mary-Anne to send around draft agenda for next meeting and list of work in progress</i>	MAB

## Action Points – FLAG members

No.	What	Who
1	None	

## Next meeting

<b>Date</b>	Wednesday 11 February 2015, (Meeting 7)
<b>Time</b>	9.30 am – 3.00 pm.
<b>Venue</b>	TDC Council Chambers
<b>Chair</b>	Nick Patterson
<b>Draft Agenda Items</b>	<ul style="list-style-type: none"> <li>• Benchmarking Project Update</li> <li>• Public Engagement</li> <li>• Cultural/Spiritual Attributes</li> </ul>
<b>Preparation</b>	See FLAG action points above

## Subsequent meetings

<b>Date</b>	Monday 9 March 2015 (Meeting 8)
<b>Time</b>	9.30 am – 3.00 pm
<b>Venue</b>	TDC Council Chambers
<b>Chair</b>	Nick Patterson