EXPERT WITNESS CONFERENCE

Proposed Natural Resources Plan

Topic: Hydrology for the Lower Ruamahanga Groundwater Zone

Date: 13 November 2017

Witnesses present:

Name	**For**
Lindsay Daysh	AJ Barton, AJ Barton and Ongaha Farms Ltd, Wairarapa Water Users Society Inc
Paula Hammond	Greater Wellington Regional Council

Environment Court Practice Note:

It is confirmed that all present:

- Have read the Environment Court Practice Note 2014 Code of Conduct and agree to abide by it.

And in particular

- Have read the Environment Court Practice Note 2014 in respect of Appendix 3 – Protocol for Expert Witness Conferencing and agree to abide by it.

Background

The hearing Panel has requested a joint witness statement from Ms Hammond (s42A author) and Mr Daysh (Planner for AJ Barton, AJ Barton and Ongaha Farms Ltd and Wairarapa Water Users Society Inc) on the planning implications of the Joint Witness Statement (JWS-hydrology) provided to the Hearing Panel on 7 November 2017. In particular the panel have ask if there is any need to alter objectives, policies, rules or methods in the proposed Natural Resources Plan for the Wellington Region (the proposed Plan) in order to give effect to the findings of the JWS-hydrology.

This JWS – planning focuses on the reclassification of where the groundwater categories (e.g. Category A, Category B and Category C) occur in the Lower Ruamahanga Groundwater Zone. Based on this JWS – hydrology, we have agreed on the following:

Points of agreement

Objectives

There are no changes required to the objectives of the proposed Plan other than those proposed in Ms Hammonds s42A report.

Policies

There are no changes required to the policies of the proposed Plan other than those proposed in Ms Hammonds s42A report.

Rules

There are no changes required to the wording of Rule R.R1 other than those proposed in Ms Hammonds s42A report. However, the figures and tables referred to in Rule R.R1 will need to be amended.

Maps and figures

Figures 7.8 and 7.9 of the proposed Plan will need to be amended to reflect the boundary changes to Category A and C groundwater classifications and the introduction of a Category B groundwater classification in the Lower Ruamahanga and the Lake Groundwater zones.

Allocation Tables

We have highlighted the allocation amounts in Tables 7.3 and 7.5 that will need to be amended as a result of the JWS- hydrology. A new allocation amount for Lower Ruamahanga Category B groundwater will need to calculated and added to Table 7.5.

Table 7.3: Surface water allocation amounts for rivers and groundwater directly connected to surface water in the Ruamāhanga River catchment above the Lake Wairarapa outflow

Catchment management unit[1]	**Allocation amount**[2] **(L/s)**
Ruamāhanga River and **tributaries**, upstream of (but not including) the confluence with the Lake Wairarapa outflow, and all **category A groundwater** and **category B groundwater** (**directly connected**) identified in the **catchment management sub-units** below in Table 7.3	7,535
Catchment management sub-units in the upper Ruamāhanga catchment[1] (shown in Figures 7.2 and 7.3)	**Allocation amount**[2] **(L/s)**
Kopuaranga River and **tributaries**, **category A groundwater** and **category B groundwater** (**directly connected**)	180
Waipoua River and **tributaries**, **category A groundwater** and **category B groundwater** (**directly connected**)	145
Waingawa River and **tributaries**, **category A groundwater** and **category B groundwater** (**directly connected**)	920
Ruamāhanga River and **tributaries** upstream of the confluence with the Waingawa River**, category A groundwater** and **category B groundwater** (**directly connected**), excluding all the above **catchment management sub-units** in the Ruamāhanga catchment (above this row in Table 7.3)	1,200
Catchment management sub-units in the middle Ruamāhanga catchment[1] (shown in Figures 7.5, 7.6 and 7.7)	**Allocation amount**[2] **(L/s)**
Parkvale Stream and **tributaries** and **category B groundwater** (**directly connected**)	40
Booths Creek and **tributaries** and **category B groundwater** (**directly connected**)	25
Mangatarere Stream and **tributaries**, **category A groundwater** and **category B groundwater** (**directly connected**)	110
Waiohine River and **tributaries** (excluding Mangatarere Stream and tributaries) and **category A groundwater**	1,590
Papawai Stream and **tributaries** and **category A groundwater**	65
Ruamāhanga River and **tributaries** upstream of the confluence with the Papawai Stream, excluding all the above **catchment management sub-units** in the Ruamāhanga catchment (above this row in Table 7.3)	1,240

[1] When assessing **surface water allocation**, both the relevant **catchment management unit** and **catchment management sub-unit** must be considered
[2] This **allocation amount** has been derived as a default based upon one of two rules; for rivers with a mean flow of greater than 5,000 litres/sec, the **allocation limit** is equal to 50% of the natural seven-day **mean annual low flow** (7d **MALF**) and for rivers with a mean flow of less than 5,000 litres/sec, the **allocation limit** is equal to 30% of the 7d MALF.

Catchment management sub-units in the lower Ruamāhanga catchment[1] (shown in Figure 7.8 and 7.9)	**Allocation amount**[2] **(L/s)**
Huangarua River and tributaries and **category A groundwater**	110
Lower Ruamāhanga River and **tributaries** upstream of (but not including) the confluence with the Lake Wairarapa outflow; and excluding all the above **catchment management sub-units** in the Ruamāhanga catchment (above this row in Table 7.3)	1,475

Table 7.5: Groundwater allocation amounts for groundwater not directly connected to surface water in the Ruamāhanga River catchment

Upper Ruamāhanga catchment management sub-units[3] (shown in Figures 7.2, 7.3 and 7.4)	**Allocation amount (m^3/year)**
Te Ore Ore **category B groundwater** (**not directly connected**)	480,000
Waingawa **category B groundwater** (**not directly connected**) and Waingawa **category C groundwater**	1,900,000
Ruamāhanga **category B groundwater** (**not directly connected**) and Ruamāhanga **category C groundwater**	3,550,000
Middle Ruamāhanga catchment management sub-units[3] (shown in Figures 7.5, 7.6 and 7.7)	**Allocation amount (m^3/year)**
Fernhill-Tiffen **category C groundwater** (**not directly connected**)	1,200,000
Taratahi **category B groundwater** (**not directly connected**) and Taratahi **category C groundwater**	1,400,000
Parkvale **category B groundwater** (**not directly connected**) and Parkvale **category C groundwater**	350,000 [unconfined] 1,550,000 [confined]
Mangatarere **category B groundwater** (**not directly connected**) and Mangatarere **category C groundwater**	2,300,000
Lower Ruamāhanga catchment management sub-units[3] (shown in Figures 7.8 and 7.9)	**Allocation amount (m^3/year)**
Tauherenikau **category B groundwater** (**not directly connected**)	6,600,000
Lower Ruamahanga **Category B groundwater**	xxxxxxxx
Lake **Category B groundwater** (**not directly connected**) and Lake **Category C groundwater**	6,750,000
Huangarua **Category B groundwater** (**not directly connected**)	650,000
Martinborough **Category C groundwater**	800,000
Dry River **Category B groundwater** (**not directly connected**)	650,000

Upper Ruamāhanga catchment management sub-units[3] (shown in Figures 7.2, 7.3 and 7.4)	**Allocation amount (m^3/year)**
Onoke **Category C groundwater**	2,100,000

Wider implications of groundwater classifications

Critical to the interpretation of Figures 7.8 and 7.9 is Schedule P: Classifying and managing groundwater and surface water connectivity. In particular, the criteria for defining stream depletion effects for Category B takes and the implications the level of stream depletion has for the management approach for that groundwater category (e.g. whether or not a take is subject to minimum flow restrictions and the proportion of water that is allocated from the surface water or groundwater budget).

While the management approach to how a groundwater category is managed is largely a planning decision, the implications of that management approach need to be assessed and considered. The management approach for each groundwater category indicates:

- Where the water for a particular take will be allocated from (i.e. the surface water budget, the groundwater budget or a combination of both), and
- Whether the take will be subject to restrictions at low flow.

We are comfortable with the descriptions and management approaches for Category A and Category C groundwater, however we both consider there is merit in looking at the Category B classification and management approach. To ensure the approaches considered do not have unintended consequences we will need to seek the input of the technical specialists. We consider getting the experts input prior to the hearing reconvening on 21 November 2017 would be advantageous.

It is important to note that Schedule P also applies region wide, not just to the Lower Ruamahanga Groundwater zone or the Ruamahanga whaitua.

To this end, we request that technical experts confirm from a practical perspective, the effects of each of the following management approach scenarios on the allocation amounts and the implications of restrictions at minimum flow both for an individual take and cumulatively at a sub-catchment and catchment level.

1. The current proposal in the proposed Plan for Category B
    a. High connection Category B - where stream depletion is greater than 60% or greater than 10L/s
        i. the take may be subject to restrictions at low flow, and
        ii. the stream depletion portion of the take is allocated from the surface water budget
    b. Moderate connection Category B - where stream depletion is less than 60% or less than 10L/s
        i. The take is not subject to restrictions at low flow, and
        ii. Allocation is solely from the groundwater budget.

Note: If the average rate of take is less than 5L/s the take is considered Moderate connection Category B

2. Minimum flow restrictions apply to takes where the stream depletion effects are greater than 10% of MALF. Additionally if there was one category B classification which budget would the water be allocated from and are there any implications for both the surface water and groundwater allocation amounts in the Ruamahanga, Wellington Harbour and Hutt Valley and Kapiti tables?

3. The option proposed in Table 8 (page 42) of Mr Jon Williamson's Statement of Evidence dated 28 August 2017. Again clarification of which budget (surface water or groundwater) the water would be allocated under this scenario is sought and are there any implications for both the surface water and groundwater allocation amounts in the Ruamahanga, Wellington Harbour and Hutt Valley and Kapiti tables?

Table 8. Proposed steam depletion classification.

Classification of stream depletion	Magnitude of stream depletion effect		
	Large Rivers (MALF > 10,000 L/s)	Medium Rivers (MALF > 5,000 L/s)	Small Rivers/Streams (MALF < 5,000 L/s)
Direct	Mapped areas (Category A)	Mapped areas (Category A)	Mapped areas (Category A)
High	Greater than 60%	Greater than 60% or greater than 5 L/s	Greater than 60% or greater than 2 L/s
Moderate	Less than 60%	Less than 60%	Less than 60%
Low	Mapped areas (Category C)	Mapped areas (Category C)	Mapped areas (Category C)

Process for the reclassification of groundwater take category

Schedule P provides for the ability to reclassify a particular take if there is clear hydrogeological evidence to suggest the take is not with a particular mapped category. This topic is not part of this JWS – planning but we note the evidence from Mr Williamson supporting a "Check list" and weighting approach in terms of hydrogeological information requirements to support reclassification as an alternative to the new Schedule. This contrasts with the information required for the reclassification of a groundwater take category, proposed in Ms Hammond's s42A report.

For the benefit of the Panel , we consider it would be useful if the Greater Wellington technical experts state their views on the effectiveness of Mr Williamson's checklist or the reclassification schedule proposed in the s42A report.

Signed:

Name	**For**	**Date**	**Signed**
Lindsay Daysh	AJ Barton, AJ Barton and Ongaha Farms Ltd, Wairarapa Water Users Society Inc	13 November 2017	
Paula Hammond	Greater Wellington Regional Council	13 November 2017