

BRIEFING NOTE



To: Rangitāiki Freshwater Futures Community Group members

From: Freshwater Futures Team **Date:** 25 October 2016

Subject: **Workshop 4 - Community view of water in Rivers, Streams and Lakes**

Welcome to Freshwater Futures Rangitāiki Community Group workshop 4.

Tēnā koe! Nau mai, nau mai, haere mai ki te Hui Tuatoru mo te Wai.

Date / Te Ra:	Tuesday 8 November 2016
Time / Te Wa:	9am to 2.30pm
Location / Te Waahi:	Galatea Hall, 50A Mangamata Road, Galatea

In this workshop, we want your thoughts on how well the values in rivers, streams and lakes in the Rangitāiki WMA are being provided for (eg. as good as ever, worsening, lost, or getting better) and how you think they should be.

We are creating freshwater state objectives for the Freshwater Management Units (FMUs). At this stage we are focusing on in-river values. Water use and future uses will be considered in workshop 5.

This Briefing Note has information and questions to think about before the workshop. It covers:

1. What we've done so far – a brief snap shot of values, current state and FMUs. We are building on this in workshop 4.
2. What we're focussing on in workshop 4 – how we will approach freshwater state objectives in FMUs.
3. What's coming up in workshop 5 – scenarios and understanding implications for future use.

Before the workshop, please think about and fill in the questions in Attachment 3. **Please bring this along with you.**

If you have any questions before the workshop, please contact:

- **Lisa Baty** – RSVPs and administration: Lisa.Baty@boprc.govt.nz 0800 884 881 x 8352
- **Simon Stokes** – Relationship Manager: Simon.Stokes@boprc.govt.nz 0800 884 881 x 9378

We look forward to seeing you at the workshop.

A healthy Rangitāiki River, valued by the community, protected for future generations.

E ora ana te mauri o te awa o Rangitāiki, e manaakitia ana e te iwi, e tiakina ana mō ngā whakatipuranga o muri mai.

Tihei Mauri Ora.

1 What we have done so far – values, current state and freshwater management units

You have spent time:

- **identifying values** (Workshops 1 and 3)
- learning about **current state** (Workshop 2)
- discussing draft **FMUs** (Workshop 3)

Workshop notes are available online (<https://rcg.boprc.govt.nz/> Username: *firstname.surname* password: *Rangitaiki2015*).

Three draft surface water Freshwater Management Units (FMUs) were identified for the Rangitāiki WMA:

- **Rangitāiki in natural state**
- **Lower Rangitāiki**
- **Mid-Upper Rangitāiki**

Attachment 1 includes a map of the draft FMUs, and **Attachment 2** provides a snap shot of current state and key values we have heard about within these FMUs.

What about groundwater (ie. aquifers) and wetlands?

We expect groundwater objectives will relate to sustaining the long term supply of the resource, supporting surface freshwater objectives, and meeting the needs of water users, which we will cover more in workshop 5. Aquifers play a part when we consider sustaining the values in our rivers, lakes and estuaries.

Wetlands come in various scales and types. We are looking in to options for how to set objectives for wetlands. We may take a region wide approach based on wetland type or may set specific objectives for only certain wetlands - the team is currently working on this.

2 Workshop 4 – Creating freshwater state objectives

We are now working towards specific, measurable objectives for water quality and quantity in water bodies within each FMU in the Rangitāiki.

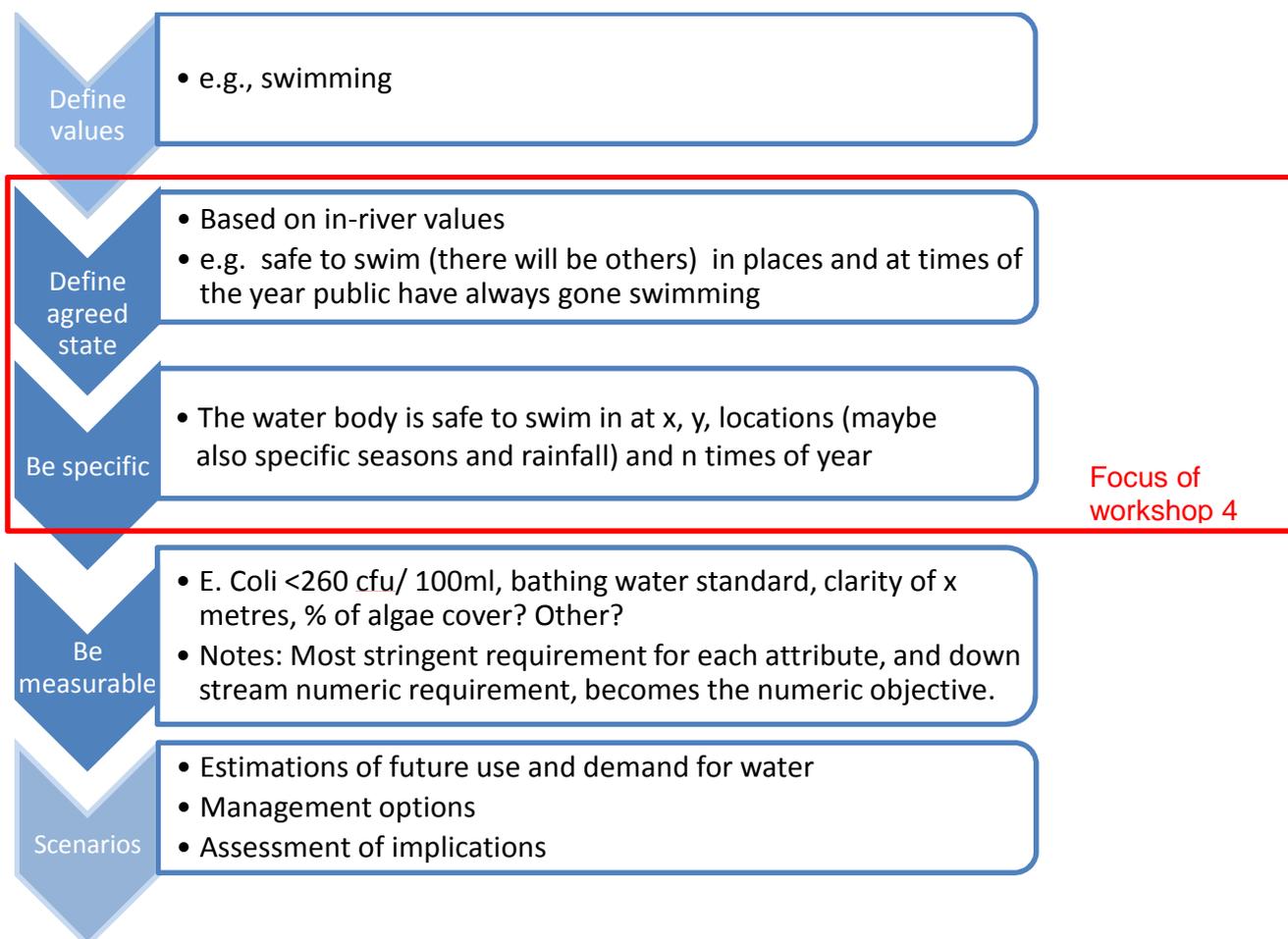
A simplified example is shown in the flowchart on next page.

In this workshop we would like to work with you on defining the expected states that support those in-river values.

We will then come back to you in workshop 5 with measures, estimates of future water use, and will start to talk about implications.

What is a freshwater objective?

A freshwater objective describes the environmental state required for the identified values for fresh water to be appropriately provided for. In this process, freshwater objectives are set at an FMU scale. Where practicable they must be numeric but can also be written or narrative.



Flowchart: A simplified example of how we working towards specific, measurable objectives for the water in river

2.1 Questions for Community Group members

We would like to hear from you about where water bodies are currently supporting values that depend on water quality and flow, where they are not, and what environmental outcomes you expect. Is the water (quality and flow/level) meeting your expectations? If it is not, what are the problems and how would you expect it to be?

Workshop 4 will focus on *swimming /primary contact, significant indigenous species and habitat/ecosystem health, mahinga kai, fishing, natural form and character, sacred waters/wai tapu and transport/tauranga waka.*

In workshop 5 we will start to look into freshwater values related to taking, using and discharging to fresh water.

Please think about and fill in the questions in Attachment 3.



What about suggestions made about “how” water should be managed?

The community group and tangata whenua have suggested or shared many practical ideas or principles about *how* fresh water could be managed. These ideas are valuable. They are recorded and will be used to help with the “how” discussions at later workshops.

We'll present these on the wall at workshop 4 - please add to these during the workshop.

2.2 National direction

There are national and regional objectives that we need to give effect to as we set freshwater state objectives in FMUs. In summary, we must:

- *At least maintain* freshwater quality and mauri, i.e., we cannot set an objective that allows decline.
- *Improve* freshwater quality where needed to meet identified required use and protection values. We have been identifying these uses and values with you, so that we can seek improvement where needed.
- *Safeguard* life-supporting capacity, ecosystems and indigenous species.
- *Safeguard* the health of people and communities, *at least* for secondary contact.
- *Protect significant values* of wetlands and outstanding freshwater bodies¹.

We must also have particular regard to Te Ara Whānui o Rangitāiki, which says:

- Water quality is restored in the Rangitāiki River catchment.
- Habitats that support indigenous species and linkages between indigenous ecosystems within Rangitāiki River catchment are created, protected and enhanced².

3 What's coming up in Workshop 5?

In workshop 5, we will look at the implications of draft freshwater objectives for water uses (e.g. water supply, irrigation, hydro-generation, wastewater and stormwater discharges, flood management).

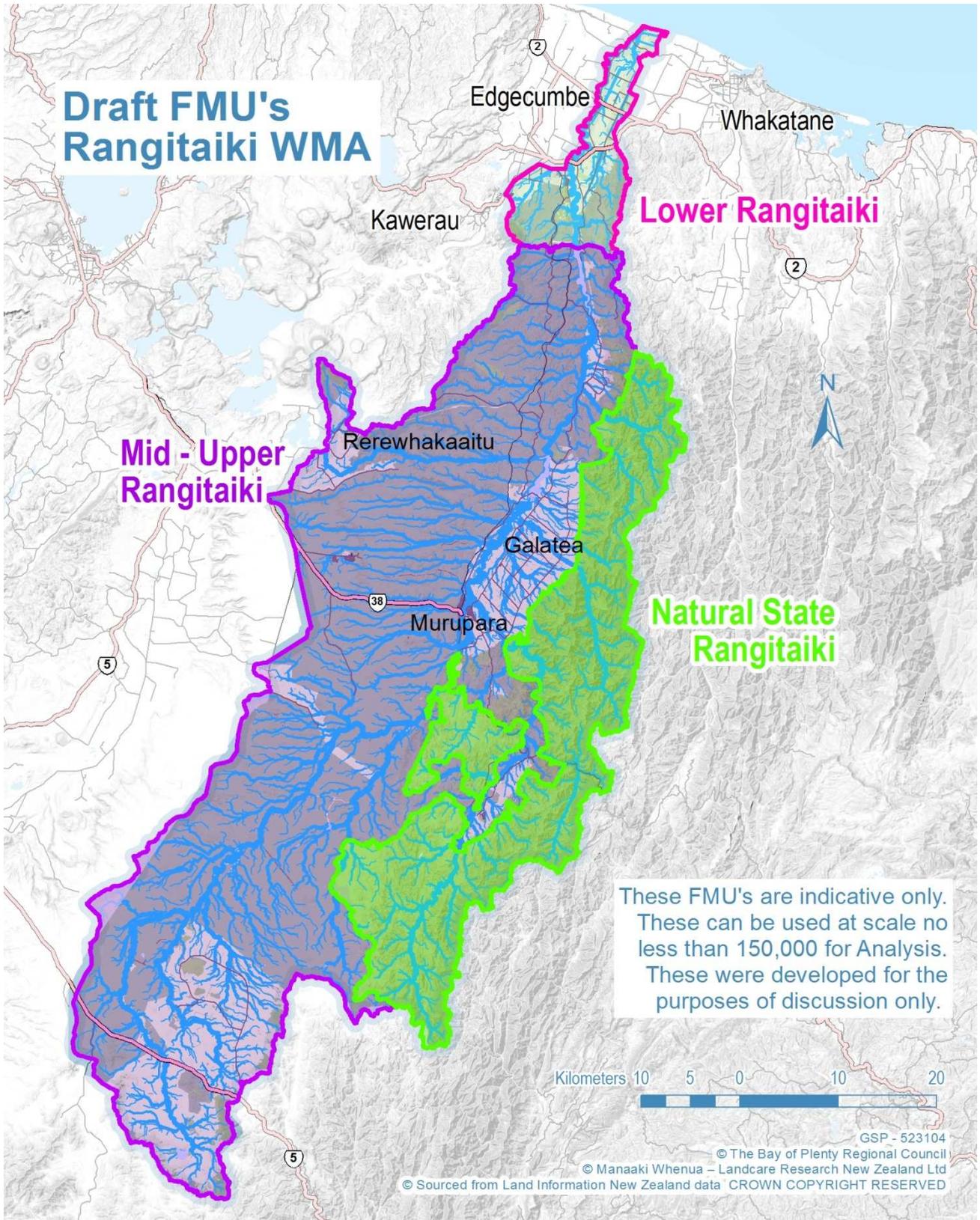
After workshop 4 the team will need time (est. 6 months) to:

1. Build surface water and groundwater models to help us predict changes in water quality and quantity.
2. Develop some credible futures to feed into the model – likely changes in population, land use and land use practices, industry and water demand and discharges. We will ask for some more input from the Group about this at workshop 4.
3. Work up attributes and numeric objectives to reflect narrative objectives.
4. Work out the best way to present modelling information.

¹ For more detail, refer to the *National Policy Statement for Freshwater Management 2014*, Objectives A1, A2 and B1-B4; and the *Bay of Plenty Regional Policy Statement* Objectives 27 and 30

² Refer to *Te Ara Whānui o Rangitāiki: The Pathways of the Rangitāiki*, pages 22-25.

Attachment 1: Draft Freshwater Management Units for Rangitāiki River



Attachment 2: Draft Freshwater Management Units

Draft FMU: Rangitāiki in natural state

Water bodies in this draft FMU include: Whirinaki River, Okahu Stream and the upper portion of several streams (like Kopuriki) with native bush.

Current state science summary

Current National Objective Framework attribute state bands and trends in Whirinaki Stream at Galatea Road Bridge are:

More about **attribute state bands** can be found in page 24 to 32 of NPSFM in your folder. No statistics currently available for those shown as “-”

River ecosystem health

Periphyton Trophic state	-	no data, information being collected at some sites
Nitrate Toxicity	A	improving
Ammonia Toxicity	A	steady
Dissolved oxygen	-	no suitable data, likely to be A-B band

River human health for swimming

E. coli **B** steady

River human health for wading/boating

E. coli **A** steady

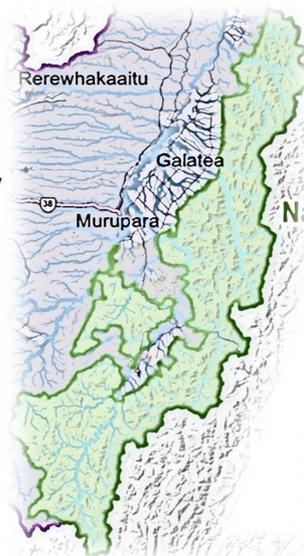
Other measures in multiple locations:

Stream ecosystem health - invertebrates

Excellent ecosystem health in streams draining native bush and forestry

Fish health – numbers and species composition

Most streams with fish communities in either **Good**, **Moderate** or **Poor** condition. Few streams with fish communities in **Excellent** condition. This also reflects pressures of the hydro-dams affecting free upstream and downstream migration, as well as trout predation – both rainbow and brown. **Rainbow trout** and **longfin eels** are the most common throughout this area. Non-migratory **dwarf galaxiids** were also found, but their range has been reduced due to predation. Migratory **koaro** have also recently been recorded here, reflecting the success of ongoing trap and transfer work.



Freshwater values identified in this draft FMU

Values <i>in</i> rivers/streams dependent on water quality and quantity in rivers	Other values and uses to be discussed at workshop 5
Ecosystem health	Kaitiaki/relationships - heritage and connection.
Significant species and habitat	Supporting other water bodies – groundwater recharge
Secondary contact (eg wading)	Supporting values and uses in downstream FMUs.
Natural Form and character	Municipal water (?)
Swimming	Animal drinking (?)
Fishing	Irrigation and cultivation (?)
Mahinga kai	Flood control (?)
Rawa Tuturu	Wastewater (?)
Wai tapu	Hydro-electricity generation (?)
Transport or Tauranga waka	Commercial and industrial use (?)

Draft FMU: Mid-Upper Rangitāiki

Water bodies in this draft FMU include: Rangitāiki at Matahina Dam, Aniwhenua, Murupara, State Highway 5, Otamatea River, Wheao River, Horomanga River and Mangaharakeke Stream
Water quality and quantity in this FMU affects water quality and quantity in downstream FMUs.

Current state science summary

Current National Objective Framework attribute state bands and trends at **Rangitāiki at Old Murupara Bridge** are:

River ecosystem health

Periphyton Trophic state	-	no data, information being collected at some sites
Nitrate Toxicity	A	deteriorating (B at Otamatea)
Ammonia Toxicity	A	steady
Dissolved oxygen	-	no suitable data, likely to be A-B band

River human health for swimming

<i>E. coli</i> - Murupara	A	steady
<i>E. coli</i> - SH5	B	-

River human health for wading/boating

<i>E. coli</i>	A	steady
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Lake and lake fed river human health for wading/boating

Cyanobacteria/Planktonic	-	-
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Current National Objective Framework attributes state bands at **Matahina Dam** and **Aniwhenua Canal** are:

River ecosystem health

Nitrate Toxicity	A
Ammonia Toxicity	A

River human health for swimming

<i>E. coli</i>	Below Acceptable
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River human health for wading/boating

<i>E. coli</i>	A
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Lake Trophic Level Index at:

Matahina	Supertrophic
Aniwhenua (2013/2014)	Eutrophic

Other measures in multiple locations:

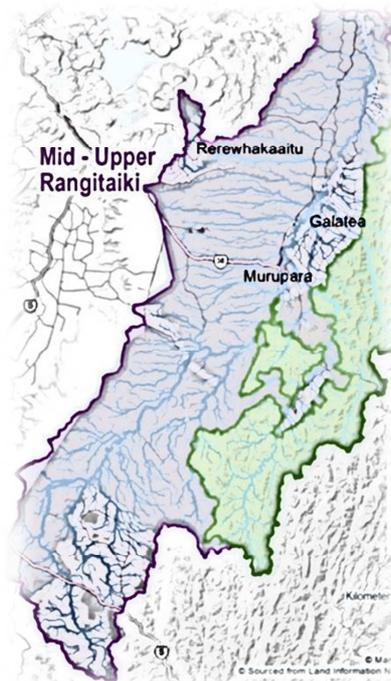
Stream ecosystem health - Invertebrates

Mostly **Excellent** or **Good** condition, especially in streams draining native bush or plantation forests; Streams draining agricultural land ranked as Fair or Poor condition.

Fish community health – numbers and species composition

Most streams show **Good** or **Poor** health. Only a few communities in **Excellent**, reflecting low species richness.

This due to pressures such as the hydro-dams and trout predation – both **rainbow** and **brown** are the most bountiful throughout this area. **Longfin** and **shortfin** eels are also common. Non-migratory **dwarf galaxids** are found in Ikawhenua Range streams, but the range is reduced by predation. Migratory **koaro** have also recently been recorded here, reflecting the ongoing trap and transfer.



Freshwater values identified in this draft FMU

Values in rivers/streams dependent on water quality and quantity in rivers

Ecosystem health
Significant species and habitat
Secondary contact (eg wading)
Natural Form and character Swimming
Fishing
Mahinga kai
Rawa Tuturu
Wai tapu
Transport or Tauranga waka
Game bird habitat (?)

Other values and uses to be discussed at workshop 5

Municipal water
Animal drinking
Irrigation and cultivation
Hydro-electricity generation
Commercial and industrial use
Supporting other water bodies
Flood control
Wastewater
Kaitiaki/relationships - heritage and connection.

Draft FMU: Lower Rangitāiki

Water bodies in this draft FMU include: Rangitāiki River at Thornton, Edgecumbe and Te Teko

Current state science summary

Current National Objective Framework attribute state bands and trends at **Te Teko Bridge** are:

River ecosystem health

Periphyton Trophic state	-	generally does not support periphyton
Nitrate Toxicity	A	steady
Ammonia Toxicity	A	steady
Dissolved oxygen	-	no suitable data, likely to be A-B band

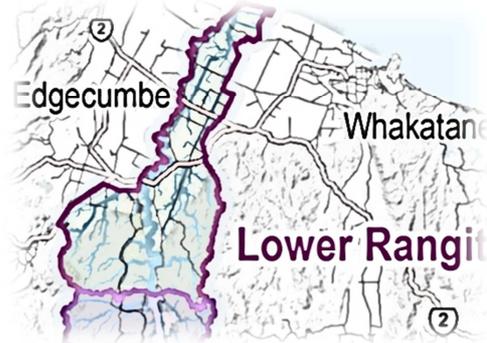
More about **attribute state bands** can be found in page 24 to 32 of NPSFM in your folder. No statistics currently available for those shown as “-“

River human health for swimming

<i>E. coli</i> - Edgecumbe	A	steady
<i>E. coli</i> - Thornton	A	steady
<i>E. coli</i> - Te Teko	B	steady

River human health for wading/boating

<i>E. coli</i>	A	steady
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Lake and lake fed river human health for wading/boating

Cyanobacteria Planktonic	-	no history of blooms
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Other measures in multiple locations:

Stream ecosystem health - invertebrates

Ecosystem health mostly **Poor** or **Fair**, reflecting the highly modified drains in this agricultural area

Fish community health – numbers and species composition

Wide range in fish community health in streams draining plantation forests, **from excellent to poor**.

The one stream draining agricultural land was assessed as having **Poor** fish communities.

Good populations of **giant kokopu** are also found in streams draining plantation forests.

Freshwater values identified in this draft FMU

Values <i>in</i> rivers/streams dependent on water quality and quantity in rivers	Other values and uses to be discussed at Workshop 5
Ecosystem health Significant species and habitat Secondary contact (eg wading) Swimming Natural Form and character Fishing Mahinga kai Rawa Tuturu Wai tapu Transport or Tauranga waka Game birds habitat	Municipal water Animal drinking Irrigation and cultivation Flood control Wastewater Hydro-electricity generation Commercial and industrial use Kaitiaki/relationships - heritage and connection.

Attachment 3:

Questions about rivers, streams and/or lakes in FMUs

<p>In your view, are these values provided for in rivers, streams and/or lakes within each FMU?</p>		<p>Your thoughts, experience and observations?</p> <p>☹ No, the current conditions means this value is at risk, worsening or lost</p> <p>○ Yes, the condition is mostly okay for this value BUT I wish more could be done</p> <p>☺ Yes, rivers/streams/lakes in this area is/are valued for this reason, and the condition is acceptable.</p> <p>? I don't have an opinion about this value or this area / I don't know.</p> <p>X I'm not aware this value applies to this area.</p>	
		<p>Tell us more about where, what, when and why</p>	
<p>Swimming and other recreation involving immersion</p>	<p>Rangitāiki in natural state</p>		
	<p>Lower Rangitāiki</p>		
	<p>Mid-Upper Rangitāiki</p>		
<p>Mahinga kai</p> <ul style="list-style-type: none"> • safe to eat & harvest • kei te ora te mauri 	<p>Rangitāiki in natural state</p>		
	<p>Lower Rangitāiki</p>		
	<p>Mid-Upper Rangitāiki</p>		
<p>Ecosystem health</p>	<p>Rangitāiki in natural state</p>		
	<p>Lower Rangitāiki</p>		
	<p>Mid-Upper Rangitāiki</p>		
<p>Significant indigenous species and habitat</p>	<p>Rangitāiki in natural state</p>		
	<p>Lower Rangitāiki</p>		
	<p>Mid-Upper Rangitāiki</p>		
<p>Fishing</p>	<p>Rangitāiki in natural state</p>		
	<p>Lower Rangitāiki</p>		
	<p>Mid-Upper Rangitāiki</p>		

<p>In your view, are these values provided for in rivers, streams and/or lakes in each FMU?</p>		<p>Your thoughts, experience and observations?</p> <p><input type="radio"/> No, the current conditions mean this value is at risk, worsening or lost</p> <p><input type="radio"/> Yes, the condition is mostly okay for this value BUT I wish more could be done</p> <p><input type="radio"/> Yes, rivers/streams/lakes in this area is/are valued for this reason, and the condition is acceptable.</p> <p><input type="radio"/> I don't have an opinion about this value or this area / I don't know.</p> <p><input checked="" type="radio"/> I'm not aware this value applies to this area.</p>	
		<p>Tell us more about where, what, when and why</p>	
<p>Natural form and character</p>	<p>Rangitāiki in natural state</p>		
	<p>Lower Rangitāiki</p>		
	<p>Mid-Upper Rangitāiki</p>		
<p>Wai tapu and/or site of cultural significance</p>	<p>Rangitāiki in natural state</p>		
	<p>Lower Rangitāiki</p>		
	<p>Mid-Upper Rangitāiki</p>		
<p>Transport and tauranga waka</p>	<p>Rangitāiki in natural state</p>		
	<p>Lower Rangitāiki</p>		
	<p>Mid-Upper Rangitāiki</p>		

Are there any rivers, streams or lakes in these FMUs that are very special and need particular attention? And why?