BRIEFING NOTE

To: Kaituna and Maketū Freshwater Futures Community Group

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

Subject: **Workshop 4: Community view of the water in Rivers and Streams**

Welcome to Freshwater Futures Kaituna and Maketū Community Group workshop 4.

Tēnā koe! Nau mai, nau mai, haere mai ki te Hui Tuatoru mo te Wai.	
Date / Te Ra	**Friday 11 November 2016**
Time / Te Wa	**9am to 2.30pm**
Location / Te Waahi	**The Orchard, 20 MacLoughlin Drive, Te Puke**

In this workshop, we want your thoughts on how well the values in rivers and streams in the Kaituna and Maketū 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 the 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 4. **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
- **Pim de Monchy** - Relationship Manager: Pim.deMonchy@boprc.govt.nz 0800 884 881 x 8518

We look forward to seeing you at the workshop.

Nou tou rourou, naku tou rourou, kia ora ai te iwi.
With your basket and my basket, we will support the people.

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 also available online (**https://kmcg.boprc.govt.nz/** Username: *firstname.surname* password: *Kaituna2015*).

Three draft surface water Freshwater Management Units (FMUs) were identified for the Kaituna and Maketū Community Group area:

- **Waiari Catchment**
- **Lower Kaituna-Maketū**
- **Mid-upper Kaituna-Maketū**

Attachment 1 includes a map of the draft FMUs, and **Attachment 2** provides a snapshot of current state and key values we have heard about within the Kaituna and Maketū WMA FMUs.

Are estuaries included in the FMUs?

Estuaries lie in the coastal marine area and are not included in freshwater management units. However, we will discuss your concerns and aspirations for the Maketū/Waihī estuary in the workshop because we need to establish freshwater objectives at the bottom of the catchment that will support estuary values and objectives. **Attachment 3** is for your feedback about Maketū Estuary.

What about groundwater (ie. aquifer) and wetlands?

We expect groundwater objectives will relate to sustaining the long term supply of the resource, supporting surface water 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, e.g. 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 Kaituna and Maketū.

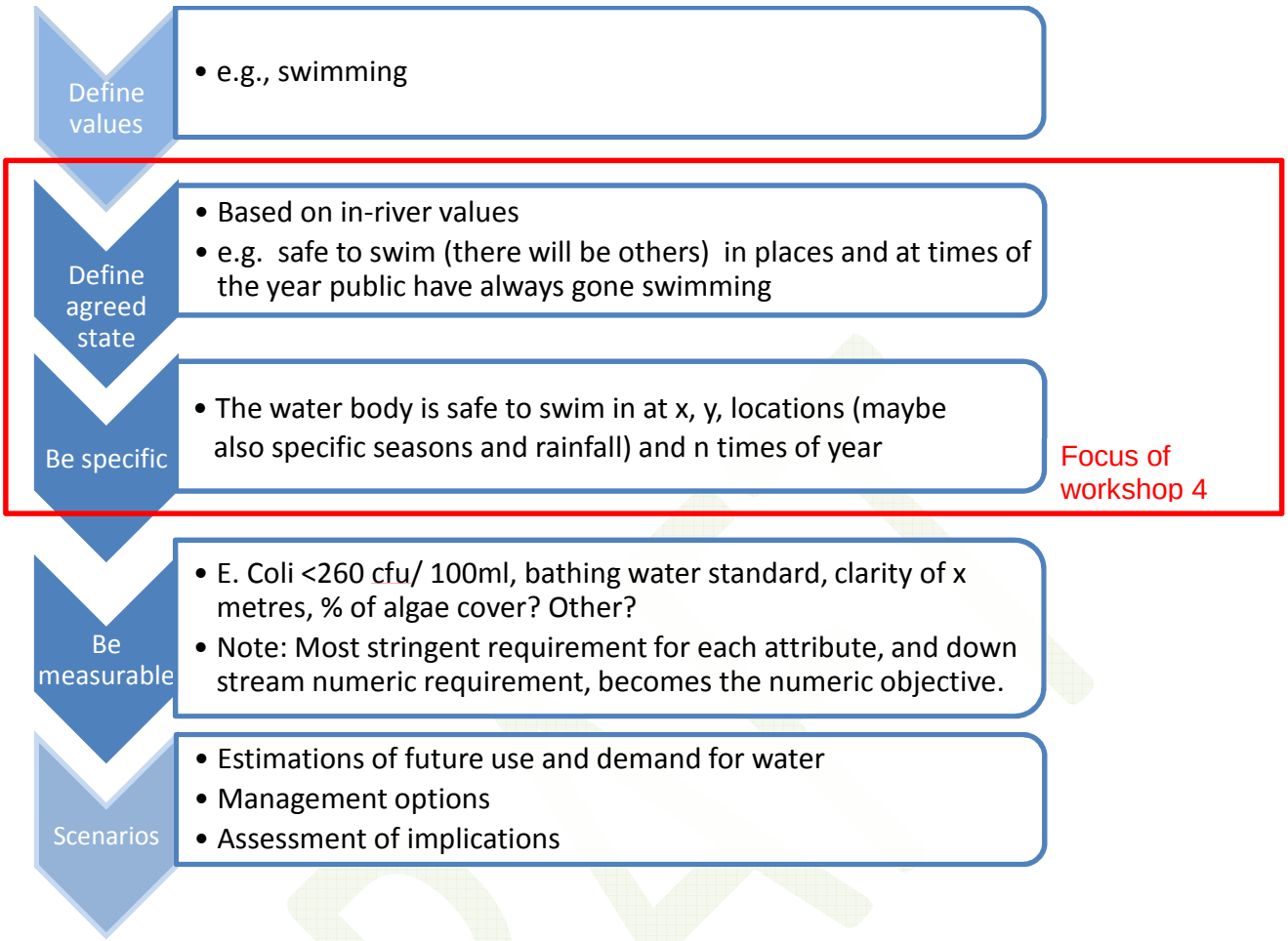
A simplified example is shown in the flowchart on next page.

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

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.

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



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 on where water bodies are currently supporting values that depend on water quality and flow, where they are not, and what 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 *fresh water into estuary, swimming/primary contact*, *significant indigenous species and habitat, ecosystem health*, *mahinga kai*, *fishing*, *natural form and character*, *wai tapu* and *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 4.

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 bodies[1].

3 What's coming up in Workshop 5?

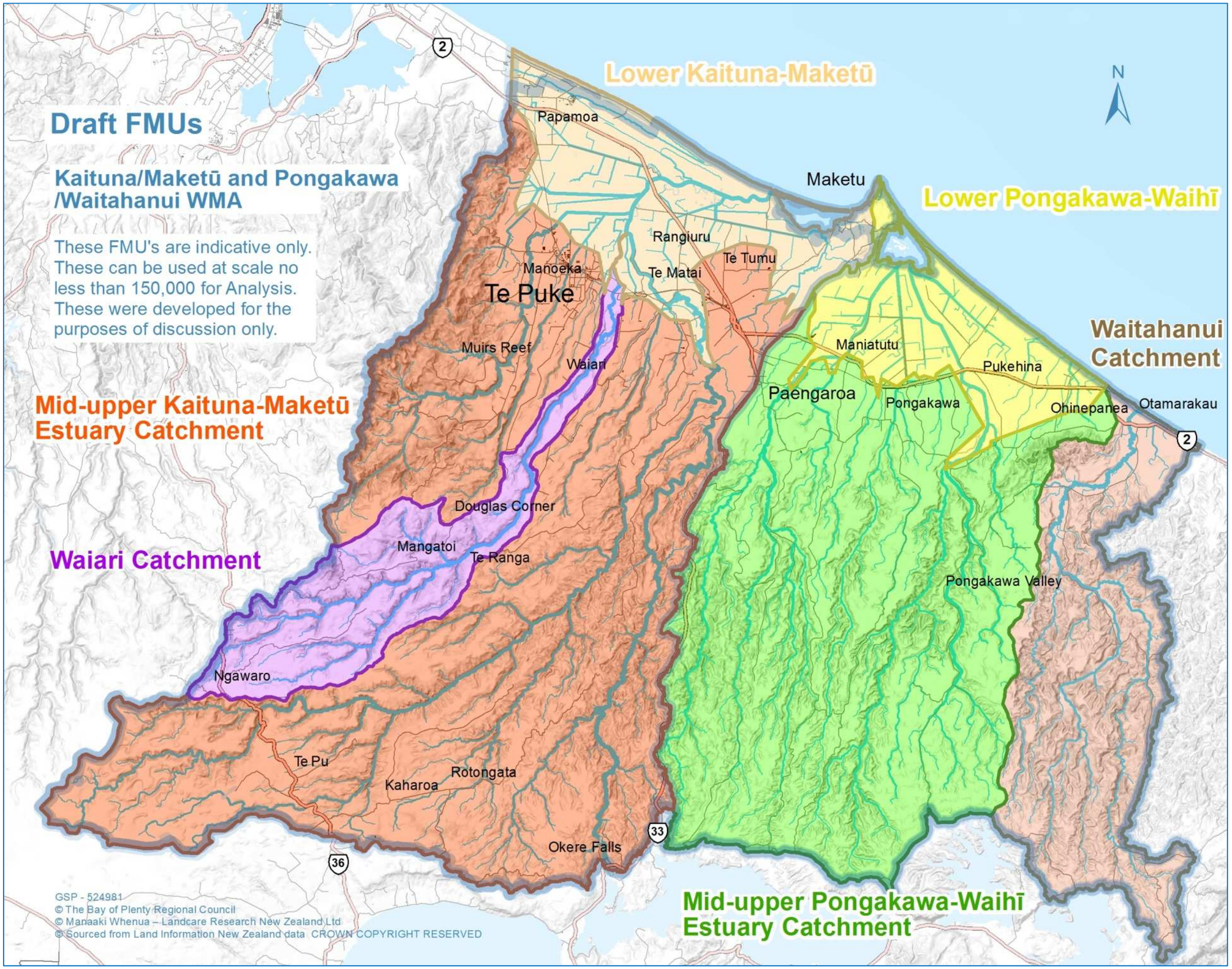
In workshop 5, we will look at the implications of draft freshwater objectives for water uses (e.g., water supply, irrigation, wastewater and stormwater discharges, flood management).

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 in to 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

Attachment 1: Draft Freshwater Management Units for Kaituna and Maketū and Pongakawa and Waitahanui



Attachment 2: Draft Freshwater Management Units

Draft FMU: Waiari Catchment

Water bodies in this draft FMU include: Waiari River, Torepapa Stream, Taumatapaua Stream, and Waiari Stream.

Water quality and quantity in this FMU affects water quality and quantity downstream in the Lower Kaituna-Maketū FMU.

Current state science summary

Current National Objective Framework attribute state bands for Periphyton (Trophic state), Nitrate Toxicity, Ammonia Toxicity, Dissolved oxygen and *E. coli* are not currently measured in Waiari.

Measures in multiple locations

Stream ecosystem health *Invertebrates*	Stream ecosystem health either **Poor** in urban areas, or **Fair** in agricultural areas.
Fish health *– numbers and species composition*	A wide range of fish community health was encountered, with streams being in either: **Excellent**, **Moderate** or **Poor** condition. **Redfin bullys**, **Inanga** and **Longfin eels** were common here.

Freshwater values identified in this draft FMU

Values *in* rivers/streams dependent on water quality and quantity in rivers	**Other values and uses to be discussed at workshop 5**
Ecosystem health	Municipal water
Significant species and habitat	Animal drinking (?)
Secondary contact (eg. wading)	Irrigation and cultivation
Natural Form and character	Hydro-electricity generation (?)
Swimming (?)	Commercial and industrial use
Fishing	Supporting other water bodies
Mahinga kai	Flood control (?)
Rawa Tuturu (?)	Urban stormwater (?)
Wai tapu (?)	Wastewater (?)
Transport or Tauranga waka (?)	
Game birds habitat (?)	

Draft FMU: Lower Kaituna-Maketū Catchment

Water bodies in this draft FMU include: the lower part of the Kaituna River out to the Kaituna River mouth, the lower parts of the Raparapahoe and Ohineangaanga Streams which are land drainage canals, and also the Kopuaroa Canal.

Current state science summary

Current National Objective Framework attribute state bands and trends in **Kaituna River at Waitangi** are:

River ecosystem health		
Periphyton Trophic state	-	generally does not support periphyton
Nitrate Toxicity	**A**	deteriorating
Ammonia Toxicity	**B**	improving
Dissolved oxygen	**A-B**	based on measurement at Te Matai
River human health for swimming		
E. coli	**A**	improving
River human health for wading/boating		
E. coli	**A**	improving

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 "-".

Other measures that took place in multiple locations

Stream ecosystem health Invertebrates	Stream health mostly **poor** in urban and agricultural areas.
Fish health – numbers and species composition	Most streams had fish communities in **Poor** or **Moderate** condition, reflecting the low habitat quality in many of these streams. Less than 10% of streams had fish communities in **Excellent** condition. **Shortfin** eels and **Inanga** were commonly found in these streams.

Freshwater values identified in this draft FMU

Values dependent on water quality/quantity in rivers	Other values and uses to be discussed at Workshop 5
Ecosystem health	Municipal water
Significant species and habitat	Animal drinking (?)
Secondary contact (eg wading)	Irrigation and cultivation
Natural Form and character	Hydro-electricity generation (?)
Swimming	Commercial and industrial use
Fishing	Supporting other water bodies (?)
Mahinga kai	Flood control
Rawa Tuturu	Urban stormwater
Wai tapu	Wastewater
Transport or Tauranga waka	
Game birds habitat	
Moana sensitive receiving environment.	

Draft FMU: Mid-upper Kaituna-Maketū Catchment

Water bodies in this draft FMU include: Kaituna River and its main tributaries which are the Mangorewa River, Paraiti River, the Raparapahoe and the Ohineangaanga Streams.

Current state science summary

Current National Objective Framework attribute state bands of **Kaituna River** at **Ōkere Falls** and **Maungarangi**:

River ecosystem health		
Periphyton Trophic state	-	generally does not support periphyton
Nitrate Toxicity	**A**	deteriorating
Ammonia Toxicity	**A**	deteriorating at Ōkere Falls
Dissolved oxygen	-	no suitable data, likely to be A-B band
River human health for swimming		
E. coli	**A**	improving in Ōkere Falls
River human health for wading/boating		
E. coli	**A**	improving in Ōkere Falls

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 "-

Other measures that took place in multiple locations:

Stream ecosystem health Invertebrates	Ecosystem health mostly **Excellent** or G**ood** in streams draining native bush and plantation forestry based on measures of invertebrates. Wide range of health in agricultural streams, with one surveyed in **Excellent** and three in **Fair** conditions.
Fish health – numbers and species composition	Most streams had fish communities in **Poor** condition, especially in agricultural catchments. However, some streams in native bush, plantation forests and agricultural catchments had fish communities in **Excellent**, **Good** or **Moderate** conditions. Fish were absent from six of the 97 streams surveyed, reflecting constraints could be caused by access, water quality or habitat. The most common fish here were **Longfin eels**, followed by **Shortfin eels**. Endangered **Shortjaw Kokopu** were recently found in a stream here.

Freshwater values identified in this draft FMU

Values *in* rivers/streams dependent on water quality and quantity in rivers	**Other values and uses to be discussed at Workshop 5**
Ecosystem health	Municipal water
Significant species and habitat	Animal drinking
Secondary contact (eg wading)	Irrigation and cultivation
Natural Form and character Swimming	Hydro-electricity generation (?)
Fishing	Commercial and industrial use
Mahinga kai	Supporting other water bodies
Rawa Tuturu	Flood control (parts)
Wai tapu	Urban stormwater
Transport or Tauranga waka	Wastewater
Game birds habitat (?)	

Attachment 3: Maketū Estuary – receiving freshwater inputs

Current state science summary

Measures relevant to **Maketū Estuary** conditions:

Estuary ecosystem health

Productivity (Chlorophyll-a)	No stats in the upper estuary	Good and improving in lower estuary
Sediment quality	Poor/very poor in upper estuary;	Good/very good in lower estuary
Algal cover	Poor and deteriorating in upper estuary	
Seagrass extent	Poor, and diminishing	
Oxygen level	Oxygen levels can be depleted due to elevated nutrients and organic matter in upper estuary	

Estuary kaimoana

Cockles/tuangi extent	Poor in upper estuary;	Average in lower estuary
Faecal contamination risk	Moderate	

Estuary human health for swimming

Faecal contamination risk	Low at Surf Club i.e. low risk of illness from contact with water

Your thoughts, experience and observations?		
In your view, are these values provided for in Maketū Estuary?	☹ No, the current estuary conditions means this value is at risk, worsening or lost **O** Yes, the condition is mostly okay for this value BUT I wish more could be done ☺ Yes, Maketū Estuary is valued for this reason, and the condition is acceptable. **?** I don't have an opinion about this value or this area / I don't know. **X** I'm not aware this value applies to this area.	**Tell us more about what, where, when and why**
Swimming and other recreation involving immersion		
Mahinga kai • safe to eat & harvest • kei te ora te mauri		
Ecosystem health		
Significant indigenous species and habitat		
Fishing		
Natural form and character		
Waahi tapu or site of cultural significance		
Transport and tauranga waka		

Attachment 4: Questions about rivers and streams in FMUs

In your view, are these values provided for in rivers and streams in each FMU?			Your thoughts, experience and observations? ☹ No, the current conditions means this value is at risk, worsening or lost O Yes, the condition is mostly okay for this value BUT I wish more could be done ☺ Yes, rivers/streams in this area is/are valued for this reason, and the condition is acceptable. ? I don't have an opinion about this value or this area /I don't know. X I'm not aware this value applies to this area.
			Tell us more about where, what, when and why
Swimming and other recreation involving immersion	**Waiari Catchment**		
	Lower Kaituna-Maketū		
	Mid-upper Kaituna-Maketū		
Mahinga kai • safe to eat & harvest • kei te ora te mauri	**Waiari Catchment**		
	Lower Kaituna-Maketū		
	Mid-upper Kaituna-Maketū		
Ecosystem health	**Waiari Catchment**		
	Lower Kaituna-Maketū		
	Mid-upper Kaituna-Maketū		
Significant indigenous species and habitat	**Waiari Catchment**		
	Lower Kaituna-Maketū		
	Mid-upper Kaituna-Maketū		
Fishing	**Waiari Catchment**		
	Lower Kaituna-Maketū		
	Mid-upper Kaituna-Maketū		

In your view, are these values provided for in rivers and streams within each FMU?		Your thoughts, experience and observations? ☹ No, the current conditions means this value is at risk, worsening or lost **O** Yes, the condition is mostly okay for this value BUT I wish more could be done ☺ Yes, rivers or streams in this area is/are valued for this reason, and the condition is acceptable. **?** I don't have an opinion about this value or this area / I don't know. **X** I'm not aware this value applies to this area.	
Natural form and character	**Waiari Catchment**		
	Lower Kaituna-Maketū		
	Mid-upper Kaituna-Maketū		
Wai tapu and/or site of cultural significance	**Waiari Catchment**		
	Lower Kaituna-Maketū		
	Mid-upper Kaituna-Maketū		
Transport and tauranga waka	**Waiari Catchment**		
	Lower Kaituna-Maketū		
	Mid-upper Kaituna-Maketū		

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