



Waiapu Catchment Technical Advisory Group

Hui 4 – Report 1: Setting Targets and Developing an Action Plan for Ngā Wai o Waiapu

1.0 Introduction

This paper assesses the current state of freshwater in the Waiapu Catchment to identify where targets for improvement and action plans are required.

In this hui, we will brainstorm and prioritise actions to address specific environmental outcomes. This will inform a draft Action Plan.

1.1 Water Quality Targets

In Hui 2, we talked about the approach for setting targets and what might be realistic improvements in water quality.

The NPSFM sets out requirements for water quality. Where water quality is below a national bottom line, or not meeting the environmental outcomes, then Council must set targets for improvement and develop action plans.

Recognising that water quality takes time to improve, the NPSFM requires that if the target date for achieving a water quality outcome is more than 10 years away, then Council must set interim targets for every 10-year period.

1.2 Action Plans

Where freshwater fails to meet environmental outcomes or is degraded, the Action Plan must set out what will be done to address this. This can include both regulatory measures (e.g. proposals to amend the TRMP, or actions taken under other legislation such as the Biosecurity Act) and non-regulatory measures (actions the Council, community, hapū or landowners will undertake).

Water quality improvement generally is unlikely to occur based on the application of rules alone, particularly where, as is the case in the Waiapu Catchment, the sources of the problem are diffuse discharges from across the landscape.

Action Plans must be reviewed every 5 years to make sure that actions are being implemented, and that water quality is improving as a result.

The Ngā Wai o Waiapu Action Plan will also guide Waiapu Koka Huhua, supporting its vision of healthy land – healthy water – healthy people.

2.0 Where Ngā Wai o Waiapu Freshwater Current State needs to Improve to meet Environmental Outcomes

The Table below identifies where Waiapu Catchment freshwater is degraded against NPSFM national bottom lines, or where Council staff have identified improvements are needed to meet draft environmental outcomes. This analysis helps identify where we should focus action planning.

	Does freshwater in the Catchment currently provide for the Value / Environmental Outcome?	What might be a reasonable target and timeframe?	Drivers / activities that affect this
NPSFM Attributes			
E.coli	<p>Sometimes.</p> <p>Waiapu River is sometimes safe to swim in during summer at monitored site, but it's long-term grade is "unsuitable for swimming".</p> <p>Makarika Stream is often poor water quality - but hasn't been monitored long enough to have a long-term grade.</p> <p>E.coli is degrading at several monitoring sites. It is likely other streams with stock access could be below national bottom lines.</p>	<p>Identifying priority sites and critical source areas will help us set targets.</p> <ul style="list-style-type: none"> The Waiapu swimming site is towards the bottom of a large catchment. Modelling shows that excluding stock only from large rivers has limited effect, as most E. coli enters from the smaller tributaries that make up most of the catchment. It may be easier to improve swimming safety at the Makarika Stream site through stock exclusion upstream. 	<p>Farming – direct stock access to waterways is the main issue.</p> <p>Pests – deer and goats present in large numbers will also contribute E.coli. In bush catchments these could be a significant source.</p> <p>Ducks – where there are large numbers of waterfowl these can elevate E.coli.</p> <p>Wastewater – e.g. from septic tanks – generally only observed as an issue around settlements.</p>
Suspended Fine Sediment/Visual Clarity	<p>No.</p> <p>Most large rivers below national bottom line.</p>	<p>The lack of data on what is happening in the smaller rivers and streams makes it difficult to set targets.</p> <ul style="list-style-type: none"> At current monitoring sites, modelling shows that even with full revegetation of the catchment, sediment levels will not meet the national bottom line by 2090. This is largely driven by untreatable gullies. Current monitoring sites are located towards the bottom of large rivers and don't reflect water quality in smaller streams where sediment levels are much lower and can be improved. 	<p>Landscape scale erosion is the main source of sediment in the Waiapu catchment.</p> <p>In smaller waterways, riverbank erosion, construction activities, horticulture, forestry harvest and general land disturbance can drive sediment loads.</p>
Deposited Sediment	<p>No in many locations – particularly smaller streams. Large rivers are swift flowing, so deposited sediment less of an issue in these.</p>	<p>Not enough information to set realistic targets at this time.</p>	
Macroinvertebrates (MCI/QMCI/ ASPM)	<p>No.</p> <p>Most of the rivers are in the 'C band' for at least one of the attributes, and there are degrading trends.</p>	<p>Not enough information to set realistic targets at this time.</p> <p>Macroinvertebrates trends are linked to the sediment issue.</p>	<p>Landscape scale erosion and sediment is probably the biggest factor affecting macroinvertebrates and fish populations in the Waiapu Catchment area.</p> <p>Poor riparian vegetation may be a significant contributor.</p>
Fish	<p>Maybe in many locations, but overall data is poor.</p>	<p>Maintain current state generally, but some improvements needed in key locations. Improve data to guide targets.</p>	<p>Activities in the beds of rivers (eg vehicle movements, riverbank modification) can destroy fish habitats.</p> <p>Predation – e.g. trout eat native fish and the insects they live on.</p>
Dissolved Oxygen	<p>Yes</p>	<p>Maintain current state</p>	<p>Shading of waterways has a positive effect.</p>
Temperature	<p>Yes at monitored sites – but we don't have a picture of the smaller rivers and streams. Based on the rest of the region, this may be an issue.</p>	<p>Maintain current state at large rivers.</p> <p>Get better data for smaller rivers and streams.</p>	<p>For large rivers, temperature and Dissolved Oxygen are not an issue as water is generally moving faster. Smaller waterways with poor shade will warm up – this drives oxygen out of the water.</p>
Habitat	<p>Yes in upper reaches and headwaters, but deteriorates in mid-lower reaches in some rivers.</p>	<p>Maintain current state generally, but improvements needed in key locations.</p>	<p>Riparian vegetation has a positive effect.</p> <p>Modification of riverbeds (eg through compaction or removal of material) and riverbanks degrades habitats.</p>
Periphyton	<p>Yes at monitored sites – but we don't have a picture of the smaller rivers and streams.</p>	<p>Maintain current state at large rivers.</p> <p>Get better data for smaller rivers and streams.</p>	<p>Shading of waterways has a positive effect.</p> <p>Nutrients from stock access and fertiliser – particularly Nitrogen.</p>
Nitrate	<p>Yes</p>	<p>Maintain current state</p>	<p>Fertiliser use, large numbers of cattle, dairy farming, horticulture</p>
Ammonia	<p>Yes</p>	<p>Maintain current state</p>	<p>Fertiliser use, large numbers of cattle, dairy farming, horticulture</p>
Phosphorus	<p>Yes</p>	<p>Maintain current state</p>	<p>Fertiliser use, natural levels of phosphorus in soils</p>

	Does freshwater in the Catchment currently provide for the Value / Environmental Outcome?	What might be a reasonable target and timeframe?	Drivers / activities that affect this
Draft Waipapu Catchment Values and Environmental Outcomes			
Mana/Mana Motuhake	No	Targets and actions should relate to processes, not necessarily the physical state of freshwater.	
Waahi tapu	No	This will be informed by the cultural values mapping underway. It's likely that targets/actions will be about process, but there may also need to be some physical actions to protect sites.	
Ahi kaa	No – the safe and healthy drinking water and wastewater disposal elements are not being met in all locations.	Set target around improved drinking water.	
Threatened species	No – wetland habitats and some braided river locations are being degraded by current activities.	May need some targets around both habitats of threatened species and the specific species themselves (taonga species discussed at last hui). Some specific targets around pest and weed control could be useful to support Raukumara Pae Maunga and similar mahi.	Habitat loss is a major driver of loss of species. Pests can also have a huge impact – for example, predators in the braided rivers are likely to be significantly affecting banded dotterel populations. Activities within the specialised habitats (eg gravel extraction, wetland drainage) will directly kill species.
Mahinga kai	No	There is not enough information to set targets. Relates to habitat, sediment load and food abundance (macroinvertebrates).	Landscape scale erosion is the main issue impacting mahinga kai. At pataka kai, riverbank erosion, construction activities, horticulture, forestry harvest and general land disturbance can significantly impact the abundance of kai species.
Natural form and character	Yes , but this is being degraded by some activities	Maintain current state. Restoration at specific sites (eg Mata River gravel site)	Modification of the channel and riverbanks
Animal drinking water	Yes	Maintain current state	Note animals also require lower levels of E.coli and pathogens in their water to be healthy.
Commercial and industrial uses	Yes	Maintain current state	Availability of water and gravel resources are the main aspects that affect their activities.
Mauri	Input sought from the Group as to how well environmental outcomes for Mauri are being met		

3.0 What Actions might be included in an Action Plan?

Based on the analysis in Section 2.0 and discussions to date, the key matters that might need to be addressed in an Action Plan for Ngā Wai o Waiapu relate to:

- **Improving E.coli levels** where people bathe, swim, waka and gather kai and drinking water. These actions principally relate to stock exclusion at and above those areas.
- **Improve habitat quality** in areas where there is poor riparian cover and impacts from gravel extraction.
- **Sediment** – focussing on smaller waterways and what ability there is for action such as stock exclusion and riparian planting to address riverbank erosion would also help with sediment levels in these rivers and streams. For some locations, the main sources of sediment might be forestry activity so actions might be around community monitoring of resource consents and a closer feedback loop to the enforcement team.
- **Achieving mana motuhake** outcomes and more direct involvement of hapū and whanau in monitoring and decision making.
- Improving access to **drinking water**.
- Some actions around **wetlands** – exclusion of cattle from some wetlands would be good for threatened species.
- **Pest control** is a key action – linked to potentially a range of issues – E.coli, sediment generation, habitat.

In this month's hui we will spend some time fleshing out and prioritising actions, building on the solutions brainstormed in Hui 1 (summarised below).

Erosion and Sediment

- **Pest control**
 - Our own doing all the pest management from home
 - Targeted areas for certain pest management practices
 - Build huts through the Raukumaras to encourage deer culling
 - Any economic opportunities created by pest management must aim to go out of business
 - Incentives and resourcing
 - Indicators: Measures based on observations. ecosystem recovery
- **Revegetation / recloaking erosion-prone areas**
 - Early prevention treatment
 - 3B land use modelling- best land use
 - Wool Couch grass, cover bare land with harakeke and tutu
 - Planting natives that aren't easily browsed
 - Planting trees is the easy part, looking after them is the hard part
 - Incentives and resourcing
 - Seed banking. Trees have whakapapa and come from different areas. There's a reason trees grow where they do

- Using place names to identify what the land needs (i.e. Urukowhai used to be Kowhai)
- **Riparian restoration**
 - Stock proofing, predator control
- Functional wetland systems to act as sediment traps
- Sustainable land use practices / regenerative farming
- How do we slow down the river systems so the rivers and banks can sustain the amount coming through?

Water quality

- Stock, pest/plant predator management
- Septic tank and grey waste
- Address fertiliser run off and leeching (including from urupa)

Education and knowledge sharing

- Localised curriculum: Inspiring the next generation into the roles needed, providing case studies, using mātauranga maori alongside western science to be the heros of our own story
- Showcasing our solutions, and giving people the opportunity to be part of the solution
- Bring people from 'Wild to willing' rather than shame and blame

Appendix 1 provides some further examples from other draft Action Plans to help generate some ideas.

Appendix 1– Example Actions from the Ūawa and Northern Catchment Plans

Action	Problem/Attribute Being Addressed	Detailed Explanation	Timeframe
Ūawa Catchment Action Plan			
Stock exclusion Hikuwai and Mangaheia Rivers	Sediment, E.coli, Ecosystem health, swimming, Mahinga kai	NES and TRMP Stock Exclusion Rules apply, Additional Non-regulatory project supporting landowners to exclude stock from the mainstem of both rivers, including supporting the upgrading of stock-crossings. As new fences are constructed, ensure minimum 5m setbacks from riverbank (10m where intensive farming use).	By Dec 2030
Plant riparian areas with native plants. Hikuwai and Mangaheia Rivers are the priority.	Sediment, E.coli, Ecosystem health, Mahinga Kai	Non-regulatory project supporting landowners to undertake riparian planting, with a combination of natives supported by poplar and willow planting in heavily eroding riverbank areas. Target a 5-10m minimum riparian planting width.	By Dec 2035
Proactive management of riverbank planting (poplars and willows) to retain bank stabilisation outcomes	Sediment, Ecosystem Health	Map high risk existing riverbank planting and develop a plan for the management.	By 2028
Installation of debris nets where woody debris mobilisation is likely but not manageable	Sediment, woody debris	Install at least 1 debris net in high risk location to reduce likelihood of woody debris mobilisation	By Dec 2026
Pest and weed control, wilding pine control	Ecosystem health, threatened species		
Community monitoring, including on farm monitoring	All attributes	Support local hapū and landowner groups to work with landowners, marae and schools to undertake on farm and community monitoring of the awa.	
Rangahau - identify and fill gaps of pakeke stories	Wai tapu, Whakapapa, Taonga Tuku Iho		
Support for collaboration among community groups	Kaitiekitanga, whanaungatanga		
More support for hapū led monitoring/ planting/restoration	Kaitiekitanga, whanaungatanga, wairua, mauri, whakapapa, taonga tuku iho		
Improving spouting systems and rainwater collection	Drinking water		
Improving fish passage	Ecosystem health, threatened species, Mahinga Kai	Retrofit existing high priority fish passage barriers in coastal townships	By Dec 2028
Better management of drains maintenance to prevent fish stranding and death	Ecosystem health, threatened species, Mahinga Kai	Develop best practice guidelines for drain management undertake field days to demonstrate good practice	By Dec 2027
Increased monitoring (locations and frequency)	All attributes	Identify Māori and community water monitoring sites and put in place a water monitoring programme in these locations	By Dec 2028
Restoration of Tataparaheke Wetland between Tolaga Bay Shops and the Beach	Ecosystem health, kaitiekitanga	Develop a restoration plan for the wetland. In conjunction with the aftercare programme for the Tolaga Bay landfill identify opportunities to expand the wetland and improve habitat and water quality	By Dec 2028
Riparian planting around urban/settlement streams	Ecosystem health, kaitiekitanga		
Detailed water quality investigations of problem areas and attributes	All attributes		
Hapū/whanau monitoring including in forest monitoring by foresters	Ecosystem health, threatened species, mahinga kai		

Action	Problem/Attribute Being Addressed	Timeframe
Northern Catchment – Draft Action Plan ideas		
Fencing livestock from waterbodies to prevent direct discharge of waste	Swimming, mahinga kai, drinking water, Rongoa <ul style="list-style-type: none"> Stock are the main source of E.coli which is an indicator of faecal contamination (poo). Stock exclusion is identified as the most effective way of reducing E.coli levels in rivers – particularly where it is close to the activity being contaminated. – eg upstream and at kapata kai, swimming sites and places where whanau collect drinking water in summer. 	Next 5 years for priority sites – at & upstream of identified swimming sites, pataka kai, mahinga kai kohanga, rongoa sites, drinking water collection sites and threatened species habitats (including wetlands) Next 10 years for medium priority sites
Upgrading septic tank systems	Swimming, mahinga kai. <ul style="list-style-type: none"> Can have localised benefits as failing septic tanks discharge waste to rivers, coast and groundwater. 	Need to get a better sense about how much of an issue this is – check septic tank cleaning records
Community education about <ul style="list-style-type: none"> safe stock watering practices to reduce impacts on swimming and kapata kai good forestry practice benefits of fencing and planting gullies importance of wetlands and how to manage them 	Most <ul style="list-style-type: none"> There are a bunch of community education actions that are grouped together. The key thing to note is that community education is an ongoing process – not a “one off” action and needs to be resourced accordingly 	Maybe set some actions around numbers of wānanga and topics to be covered in the first 5 years?
Riparian planting to create shaded river margins	Ecosystem health, mahinga kai, threatened species, natural form/character, biodiversity	High Priority sites – by 2030. Kai kohunga. Next priority sites – by 2035
Council improvements in practice <ul style="list-style-type: none"> monitoring and compliance of forestry and gravel consents infrastructure construction and maintenance (including with this Plan) 		
Development of relationship agreement/mana whakahono a rohe or similar Northern Catchment Accord	Mana Motuhake <ul style="list-style-type: none"> Mana whakahono a rohe are a formal (RMA recognised) tool – they must be initiated by the hapū and the Council has to respond. 	Next 5 years
Support for hapū hubs: <ul style="list-style-type: none"> monitor compliance and permissions increase participation in resource consent processes undertake pest control through contracts to monitor ecosystem health, water quality & effectiveness of interventions monitor swimming/kai sites and provide comms around their safe use community education days/wananga to develop nurseries to provide trees for land blocks 	Mana Motuhake, Ahi kaa, ecosystem health	Next 5 years – and ongoing
Identificaty & retrofit barriers to fish passage & those that affect flow and habitat diversity. Monitoring by local kura and hapū groups.	Ecosystem health, mahinga kai, threatened species, natural form and character, biodiversity, Mauri	Identification – next 2 years, then develop a retrofit programme
Biodiversity stocktake – and reassessment of the values and extent of wetlands (existing data is old)	Ecosystem health, mahinga kai, threatened species	Next 2 years
Pest control (weeds and wild animals) undertaken in Karakatuwhero catchment		Next 5 years and ongoing
Identify and reserve sites where rongoa plants thrive – including specific riparian areas where these species grow	Rongoa, ahi kaa	Next 5 years and ongoing
Identify and protect kohunga sites for mahinga kai species	Mahinga kai, ahi kaa	Next 5 years and ongoing
Upgrade rural water infrastructure (tanks, filtration, bores)	Ahi kaa	Need to be a bit more specific – what, where
Identify and map waahi tapu	Waahi tapu, mana motuhake	First stage – next 2 years
Develop protocols for management of waahi tapu		Second stage – next 3 years
Fencing/physically protect identified waahi tapu sites		Stage 3: 5 yrs for high priority/at risk sites, 10 for medium