

# Waipaoa Catchment Planning Advisory Group – Hui 6

Date: 13 March 2024

Title of report: Target attribute states

Report no: 1

Report authors: Lois Easton - Kereru Consultants, Sarah Thompson - Gisborne District Council

## **Purpose of this report**

At hui #5 Advisory Group members were asked to workshop priority (mitigation type) actions to help achieve the environmental outcomes that have been developed.

This report follows this guidance provided at hui #5. The report socialises some draft target attribute states relating to the quality of surface water in the Waipaoa catchment.

### **Outcomes sought**

Members of the Group have the opportunity to provide feedback on the draft target attribute states.

## Getting ready for the hui

Food for thought - think about the target attribute states and the questions posed ahead of the hui.

Remember, most environmental outcomes are not currently being met and for some it will take many years of sustained effort to meet them.

- Are the proposed target attribute states and interim targets both realistic but ambitious (achievable and challenging)?
- Are we correctly prioritising our earlier targets?
- Are the interim targets set up in a way that represents a bold yet feasible rate of progress?

## **Definitions refresher**

Attribute: A measurable indicator of water quality

- chemical e.g. nitrate levels (mg/L)
- biological e.g. Macroinvertebrate index (MCI)
  - Physical e.g. visual clarity (metres)

**Baseline Attribute State:** What an attribute was like on 7 September 2017 – but for some attributes the date is when we notified the operative Waipaoa Catchment Plan - August 2015. Measured at specified monitoring sites.

Target Attribute State: What we want that attribute to be like to achieve the environmental outcomes.

Interim Targets: 10-year milestones on the path to the Target Attribute State.

# Table of Contents

1 Introduction	4
2 Scene setting - the National Objectives Framework	4
3. Draft target attribute states and timeframes	4
4.Next steps	5
Appendix One: Draft target attribute states for surface waters	7

#### 1 Introduction

At hui #5 in December 2023, we looked at the vision for the catchment, the freshwater management units (FMUs) within the catchments, and the values and environmental outcomes for each of those FMUs.

Together the vision, values and environmental outcomes drive what should be the target attribute state for the different freshwater attributes.

Generally, water quality across the catchment is not of a sufficient standard to meet the values and environmental outcomes and needs to be improved. At hui #5 we started looking at methods to improve water quality and what might be priorities.

All this information has been pulled together to inform the development of draft target attribute states and timeframes to achieve these – these are proposed in this report.

#### 2 Scene setting- the National Objectives Framework

This work is part of the second stage of implementing the National Objectives Framework (NOF).

### Stage 1: Identifying aspirations and goals for freshwater

- Identifying freshwater values
- **Defining FMUs** •
- Setting environmental outcomes
- Identifying a long-term vision

### Stage 2: Identifying how and when to achieve those goals

- Understanding attributes and baseline states •
- Setting targets and timeframes

This is where we are

Setting limits, methods and actions Monitoring

•

#### 3. Draft target attribute states and timeframes

A key component of the Catchment Plan is the identification of target attribute states and the timeframes to achieve them. For many parts of the catchment, current water quality does not support the values or environmental outcomes sought. However, improving water quality is not a fast or easy process. The target attribute states set need to take the catchment towards those environmental outcomes and the NPS-EM directs that these need to be both realistic but also ambitious.

Draft target attribute states for surface waterbodies (rivers and lakes) have been developed and are attached as Appendix One.

The following approach has been taken in drafting the proposed target attribute states:

- Where the water quality attribute is within the A or B band, the target is generally to maintain the current state.
- Where the water quality attribute is currently declining, and/or below the national • bottom line and/or at a level where it is impacting on the values of the waterbody, the first five-year target is focussed on stabilising water quality and halting the declining trend. The second five-year target is to reverse the degrading trend and the longer-term target (15-30 years) is to reach the national bottom line (NBL) or the next band.
- In the case of sediment, in catchments with very large landscape scale sediment discharges (e.g. Tarndale Slip, Mangatu Slip) and values are far below the NBL, it is recognised that significant improvement will only occur in 50-100-year timeframe.
- For some sites and attributes, the current state is not known, so the initial target is to establish this.

In summary, the draft target attribute states proposed require:

#### • In the Waipaoa Hill Country FMU

- Halting of the degrading trend for nitrogen and ammonia over a five-year timeframe.
- Focussed improvement in phosphate levels over a 10-year timeframe.
- Significant improvements in E. coli levels over a 10–30-year timeframe.
- Improvements in macroinvertebrate indicators over a 10–30-year timeframe.
- Focussed improvements in sediment levels recognising that these are possible in shorter timeframes in the more stable Wharekopae and Waikohu subcatchments.

#### • In the Arai Te Uru FMU

- Halting of the degrading trend for all nutrient attributes over a 5-year timeframe.
- Significant improvements in sediment and E. coli levels over a 10 30-year timeframe.
- Improvements in macroinvertebrate indicators over a 10–30-year timeframe

#### • In the Turanga Flats FMU

- Halting of the degrading trend for all nutrient attributes over a 5-year timeframe.
- An 18% reduction in nitrate levels in the Taruheru River over a 30-year timeframe however, this may not be practicable (modelling work to confirm).
- A 10% reduction in phosphate levels in the Waipaoa and Taruheru rivers over a 30-year timeframe – however, this may not be practicable (modelling work to confirm).
- Meeting the NBL for phosphate in the Whakaahu River over a 30-year timeframe.
- Meeting the NBL for dissolved oxygen in the Whakaahu Stream over a 10-year timeframe.
- A 10% improvement in suspended sediment levels in the Waipaoa River over a 30-year timeframe.
- An improvement in suspended sediment levels in the Taruheru River so that it meets the NBL within 10 years and the Upper C band within 30 years.
- Improvement in deposited sediment levels at all river sites with the Waipaoa River meeting the NBL within 30 years and a 50% improvement in the Taruheru River and Whakaahu Stream over that timeframe.
- Improvement in E.coli levels so that the Waipaoa River reaches the D Band and the Whakaahu Stream and Taruheru River reach the C Band within 30 years.
- A 50% improvement in macroinvertebrate levels within 30 years but recognising it may not be practicable to reach the NBL in this timeframe.

### • In the Gisborne Urban FMU

- Halting the degrading trend for phosphate over a 5-year timeframe and seeking to turn this into an improving trend, but recognising it is not practicable to meet the NBL even within a 30-year timeframe.
- A significant improvement in suspended fine sediment but recognising it is not practicable to meet the NBL even within a 30-year timeframe.
- A significant improvement in E.coli but recognising it is not practicable to meet the NBL even within a 30-year timeframe.

### 4. Next steps

Once we've established the target attribute states, we'll need to consider what is required i.e. what action steps we need to take, to reach these states. This is likely to be a combination of rules and other methods outlined in an Action Plan.

For the next few meetings, we'll take a break from talking about water quality, and focus on water quantity instead. Then we'll come back to the Action Plan later in the year.

### Appendix One: Draft target attribute states for surface waters

Waipaoa Catchment Plan: Draft water quality target attribute states – surface waterbodies

Key to colours: Green = A Band, Yellow = B Band, Orange = C Band, Red = D Band and/or below national bottom line

Waipaoa Hill Co	ountry FMU						
Attribute	Values Supported by this attribute	Current state	Short Term Target (5 years)	Medium Term Target (10 years)	Long Term Target (15-30 years)	Longer Term Target (50-100 years)	
Nutrients							
Ammonia	Ecosystem health Mahinga kai Fishing	Waingaromia at Terrace Station	Stabilise levels - halt degrading trend	Maintain current state – no degrading trend			
	Threatened species	Mangatu River at Omapere Station	Stabilise levels - halt degrading trend	Maintain current s	egrading trend		
		Waikohu River at Mahaki Station	Stabilise levels - halt degrading trend	Maintain current s	tate – no de	egrading trend	
		Wharekopae River at Rangimoe	Stabilise levels - halt degrading trend	Maintain current s	tate – no de	egrading trend	
		Waihirere Str at Domain	Stabilise levels - halt degrading trend	Maintain current state – no degrading trend			
		Lake Repongare	Establish current state	TBC once current s	tate unders	stood	
Nitrate	Ecosystem health Mahinga kai	Waingaromia at Terrace Station	Maintain current sta	te – no degrading tre	end		

	Fishing	Mangatu River at	Stabilise levels -	Maintain current s	tate – no degrading trend	
	Animal drinking water	Omapere Station	halt degrading			
	Drinking water supply		trend			
		Waikohu River at	Stabilise levels -	Maintain current s	tate – no degrading trend	
		Mahaki Station	halt degrading			
			trend			
		Wharekopae River	Stabilise levels -	Maintain current s	tate – no degrading trend	
		at Rangimoe	halt degrading			
			trend			
		Waihirere Str at	Maintain current sta	ate – no degrading tre	end	
	_	Domain				
Total Nitrogen		Lake Repongare	Establish current	TBC once current s	state understood	
(Trophic State)			state			
Phosphate (DRP)	Ecosystem health	Waingaromia at	Stabilise levels -	Maintain current state – no degrading trend		
	Mahinga kai	Terrace Station	halt degrading			
	Fishing		trend			
	Threatened species	Mangatu River at	Maintain current sta	nt state – no degrading trend		
		Omapere Station				
		Waikohu River at	Stabilise levels -	Maintain current s	tate – no degrading trend	
		Mahaki Station	halt degrading			
			trend			
		Wharekopae River	Stabilise levels -	Improving trend	Get to national bottom	
		at Rangimoe	halt degrading		line	
			trend			
		Waihirere Str at	Stabilise levels -	Improving trend	Get to National Bottom	
		Domain	halt degrading		Line	
			trend			
Total Phosphorus		Lake Repongare	Establish current	TBC once current state understood		
(Trophic State)			state			
<b>Physical Attributes</b>						

Attribute	Values Supported by this attribute	Current state	Short Term Target (5 years)	Medium Term Target (10 years)	Long Term Target (15-30 years)	Longer Term Target (50-100 years)
Dissolved oxygen	Mahinga kai Ecosystem health	Waingaromia at Terrace Station	Maintain current sta	te – no increasing tre	end	
	Fishing Threatened Species Mauri	Wharekopae River at Rangimoe	Maintain current sta	te – no increasing tre	end	
Lake Bottom/Mid Hypolimnic Dissolved Oxygen	Mahinga kai Ecosystem health Fishing Threatened Species Mauri	Lake Repongare	Establish current state	TBC once current state understood		
Suspended fine sediment (Visual	Ecosystem health Human contact -	Waingaromia at Terrace Station	Improving trend			National Bottom Line
Clarity)	swimming Threatened species	Mangatu River at Omapere Station	Improving trend			National Bottom Line
	Mahinga kai Natural form and character	Waikohu River at Mahaki Station	Improving trend National Bottom Line			Upper C Band
	Drinking water supply Fishing Irrigation and food	at Rangimoe Bo		National Bottom Line	Upper C Band	
	production Aquifer recharge Flood protection and resilience	Waihirere Str at Domain				

	Flood control and land					
	management					
	Water storage					
	Mauri					
Deposited fine	Ecosystem health	Waingaromia at	Improving trend	B Band		
sediment	Human contact –	Terrace Station				
	swimming					
	Threatened species					
	Mahinga kai					
	Natural Form and					
	character					
	Fishing					
	Mauri					
	Transport and Tauranga					
	waka					
	Water storage					
	Flood control and land					
	management					
	Flood protection and					
	resilience					
		Mangatu River at	Maintain current state – no increasing trend			
		Omapere Station				
		Waikohu River at	Maintain current state – no increasing tro	end		
		Mahaki Station				
		Wharekopae River	Maintain current state – no increasing	National	B Band	
		at Rangimoe	trend	bottom		
				line		
		Waihirere Str at	Improving trend	B Band		
		Domain				

Physical Habitat Assessment		Sites still being determined	Improvements generally required TBC			
Temperature		Sites still being determined	Current state being e	stablished	ТВС	
<b>Biological Attribute</b>	es					
Attribute	Values Supported by this attribute	Current state	Short Term Target (5 years)	Medium Term Target (10 years)	Long Term Target (15-30 years)	Longer Term Target (50-100 years)
E.coli	Human contact - swimming Mahinga kai Drinking water supply	Waingaromia at Terrace Station	Continue improving trend	Median 130 cfu/100mL Improving trend 95th Percentile	C Band	
	Animal drinking water Irrigation and food production Mauri	Mangatu River at Omapere Station	Continue improving trend	Median 130 cfu/100mL Improving trend 95th Percentile	C Band	
	Transport and tauranga waka	Waikohu River at Mahaki Station	Continue improving trend	Median 130 cfu/100mL Improving trend 95th Percentile	C Band	
		Wharekopae River at Rangimoe	Continue improving trend	Median 130 cfu/100mL Improving trend 95th Percentile	C Band	
		Waihirere Str at Domain	Improving trend	Median 130 cfu/100mL Improving trend 95th Percentile	C Band	

		Rere Falls	Improving trend – median and 95th Percentile	C Band	Reach national bottom line for swimming	
		Rere Rockslide	Improving trend	C Band	Reach national bottom line for swimming	
Periphyton	Ecosystem health Mahinga kai	Waingaromia at Terrace Station	Maintain current state – no increasing trend Maintain current state – no increasing trend			
	Natural Form and Character	Mangatu River at Omapere Station				
M Di	Fishing Mauri	Waikohu River at Mahaki Station	Maintain current sta	te – no increasing tre	end	
	Drinking water supply Animal drinking water	Wharekopae River at Rangimoe	Maintain current sta	end		
		Waihirere Str at Domain	Maintain current state – no increasing trend			
Fish	Ecosystem health Mahinga kai	Waingaromia at Terrace Station	Establish current state	TBC once current state understood		
	Fishing Threatened species	Mangatu River at Omapere Station	Establish current state	TBC once current s	tate understood	
	Mauri	Waikohu River at Mahaki Station	Establish current state	TBC once current state understood		
		Wharekopae River at Rangimoe	Establish current state	TBC once current state understood		
		Waihirere Str at Domain	Establish current state	TBC once current state understood		
Macroinvertebrates	Ecosystem health Mahinga kai	Waingaromia at Terrace Station	Improving trend	1	National bottom line MCI/QMCI	
	Fishing Threatened species	Mangatu River at Omapere Station	Improving trend B Band			

	Mauri	Waikohu River at	Improving trend		B Band
		Mahaki Station			
			Improving trend		B Band
		at Rangimoe			
		Waihirere Str at	Improving trend		B Band
		Domain			
		Waikohu Rv at	Improving trend		B Band
		Oliver			
		Parihihonou Str at	Improving trend		B band
		SH2 Overbridge			
		Waikohu River at	Improving trend		National bottom line
		No3 Br			MCI/QMCI
		Kurunui Str at	Improving trend		National bottom line
		Holdsworth Br SH2			MCI/QMCI
		Waihuka River at	Improving trend		B band
		No3 Br			
		Waihuka at No2 Br	Improving trend		B band
		Mangatu Trib	Improving trend		B band
		Waipaoa at	Improving trend		B band
		Armstrong Rd			
		Waikohu Trib at	Improving trend		National bottom line
		Whakarau Rd			MCI/QMCI
		Mangaoai Str at	Improving trend		National bottom line
		Mangaoai Rd			MCI/QMCI
		Wharekopae above	Improving trend		National bottom line
		falls			MCI/QMCI
Cyanobacteria	Ecosystem health	Lake Repongare	Establish current	TBC once current s	tate understood
(Planktonic)	Mahinga kai		state		
Submerged Plants	Fishing	Lake Repongare	Establish current	TBC once current s	tate understood
(Natives)	Threatened species		state		

Submerged Plants	Mauri	Lake Repongare	Establish current	TBC once current state understood
(Invasive Species)	Human contact -		state	
	swimming			

Te Arai Te Uru FMU	J					
Attribute	Values supported by this attribute	Current state	Short Term Target (5 years)	Medium Term Target (10 years)	Long Term Target (15- 30 years)	
Nutrients	<u>.</u>					
Ammonia	Ecosystem health Mahinga kai Fishing Threatened species	Te Arai at Pykes Weir	Stabilise levels - halt degrading trend	Improving trend		
Nitrate	Ecosystem health Mahinga kai Fishing Animal drinking water Drinking water supply	Te Arai at Pykes Weir	Stabilise levels - halt degrading trend	Improving trend		
Phosphate (DRP)	Ecosystem health Mahinga kai Fishing Threatened species	Te Arai at Pykes Weir	Stabilise levels - halt degrading trend	Improving trend		
<b>Physical Attributes</b>						
Attribute	Values supported by this attribute	Current state	Short Term Target (5 years)	Medium Term Target (10 years)	Long Term Target (15- 30 years)	
Dissolved oxygen	Mahinga kai Ecosystem health	Te Arai at Pykes Weir	Establish current state	TBC once current state understood however aim should be to be in the A Band		

	Fishing Threatened Species				
	Mauri				
Suspended fine	Ecosystem health	Te Arai at Pykes	Improving trend	National Bottom	B Band
sediment (Visual	Human contact -	Weir		Line	
Clarity)	swimming				
	Threatened species				
	Mahinga kai				
	Natural form and				
	character				
	Drinking water				
	supply				
	Fishing				
	Irrigation and food				
	production				
	Aquifer recharge				
	Flood protection				
	and resilience				
	Flood control and				
	land management				
	Water storage				
	Mauri				
Deposited fine	Ecosystem health	Te Arai at Pykes	Improving trend	National Bottom	Upper C Band
sediment	Human contact –	Weir		Line	
	swimming				
	Threatened species				
	Mahinga kai				
	Natural Form and				
	character				
	Fishing				

	Mauri Transport and Tauranga waka Water storage Flood control and land management				
	Flood protection and resilience				
Physical Habitat Assessment		Sites still being determined	Improvements generally required	ТВС	1
Temperature		Sites still being determined	Current state being established	ТВС	
<b>Biological Attribut</b>	es				
Attribute	Values supported by this attribute	Current state	Short Term Target (5 years)	Medium Term Target (10 years)	Long Term Target (15- 30 years)
E.coli	Human contact - swimming Mahinga kai Drinking water supply Animal drinking water Irrigation and food production Mauri Transport and tauranga waka	Te Arai at Pykes Weir	Continue improving trend	National Bottom Line	Upper C Band
Periphyton	Ecosystem health Mahinga kai	Te Arai at Pykes Weir	Maintain current state – no c	legrading trend	

	Natural Form and Character Fishing Mauri Drinking water supply Animal drinking water				
Fish	Ecosystem health Mahinga kai Fishing Threatened species Mauri	Te Arai at Pykes Weir	Establish current state	TBC once current state understood	
Macroinvertebrates	Ecosystem health Mahinga kai	Te Arai at Pykes Weir	Stabilise levels - halt degrading trend	National Bottom Line	Upper C Band
	Fishing Threatened species	Te Arai Trib at Waugh Rd	Stabilise levels - halt degrading trend	National Bottom Line	Upper C Band
	Mauri	Te Arai Trib at Waingake Rd	Improving trend	National Bottom Line	Upper C Band
		Te Arai Rv at Waingake	Stabilise levels - halt degrading trend	National Bottom Line	Upper C Band
		Te Arai River Bush Intake Above Weir (Reference Site)	Maintain current state		

Gisborne Urba	n FMU				
Attribute	Values Supported	Current state	Short Term Target (5 years)	Medium Term	Long Term Target (15-
	by this attribute			Target (10 years)	30 years)
Nutrients					
Ammonia	Ecosystem health	Taruheru River at	Halt degrading trend (this	Upper C Band	B Band
	Mahinga kai	Lytton Rd Bridge	is linked to upstream		
	Fishing		horticulture activity)		
	Threatened	Taruheru River at	Maintain current state – no o	degrading trend	
	species	Wi Pere Pipe			
		Waikanae Stream	Continue improving trend	Upper C Band	B Band
		at Stanley Rd			
		Bridge			
		Sisterson Drain	Improving trend	Upper C Band	B Band
		Site 1 at Wetland			
		Inflow Point			
		Awapuni Site 6	Improving trend	Upper C Band	B Band
		U/S Of Rayonier			
		at Fenceline			
Nitrate	Ecosystem health	Taruheru River at	Improving trend		Upper B Band
	Mahinga kai	Lytton Rd Bridge			
	Fishing	Taruheru River at	Improving trend		Upper B Band
	Animal drinking	Wi Pere Pipe			
	water	Waikanae Stream	Improving trend		
	Drinking water	at Stanley Rd			
	supply	Bridge			
		Sisterson Drain	Improving trend		Upper B Band
		Site 1 at Wetland			
		Inflow Point			

		Awapuni Site 6 U/S Of Rayonier at Fenceline	Improving trend		
Phosphate (DRP)	Ecosystem health Mahinga kai Fishing	Taruheru River at Lytton Rd Bridge	Stabilise levels - halt degrading trend	Improving trend	% improvement (will not reach National Bottom Line)
	Threatened species	Taruheru River at Wi Pere Pipe	Stabilise levels - halt degrading trend	Improving trend	% improvement (will not reach National Bottom Line)
		Waikanae Stream at Stanley Rd Bridge	Stabilise levels - halt degrading trend	Improving trend	% improvement (will not reach National Bottom Line)
		Sisterson Drain Site 1 at Wetland Inflow Point	Stabilise levels - halt degrading trend	Improving trend	% improvement (will not reach National Bottom Line)
		Awapuni Site 6 U/S Of Rayonier at Fenceline	Stabilise levels - halt degrading trend	Improving trend	% improvement (will not reach National Bottom Line)
<b>Physical Attributes</b>					
Attribute	Values supported by this attribute	Current state	Short Term Target (5 years)	Medium Term Target (10 years)	Long Term Target (15- 30 years)
Dissolved oxygen	Mahinga kai Ecosystem health Fishing	Waikanae Stream at Stanley Rd Bridge	Establish current state	TBC once current sta	te understood
	Threatened Species Mauri	Awapuni Site 6 U/S Of Rayonier at Fenceline	Establish current state	TBC once current sta	te understood
	Ecosystem health	Taruheru River at Lytton Rd Bridge	Improving trend	10% improvement	50% improvement

Suspended fine	Human contact -	Taruheru River at	Improving trend (this depends largely on what happens in the Waimatā			
sediment (Visual	swimming	Wi Pere Pipe	River)			
Clarity)	Threatened	Waikanae Stream	Improving trend	10% improvement	50% improvement	
	species	at Stanley Rd				
	Mahinga kai	Bridge				
	Natural form and	Sisterson Drain	Improving trend	10% improvement	50% improvement	
	character	Site 1 at Wetland				
	Drinking water	Inflow Point				
	supply	Awapuni Site 6	Improving trend	10% improvement	50% improvement	
	Fishing	U/S Of Rayonier				
	Irrigation and food	at Fenceline				
	production					
	Aquifer recharge					
	Flood protection					
	and resilience					
	Flood control and					
	land management					
	Water storage					
	Mauri					
Physical Habitat		Sites still being	Improvements generally	ТВС		
Assessment		determined	required			
Temperature		Sites still being	Current state being	ТВС		
		determined	established			
<b>Biological Attribut</b>	es	1				
Attribute	Values supported	Current state	Short Term Target (5	Medium Term	Long Term Target (15-	
	by this attribute		years)	Target (10 years)	30 years)	
E.coli	Human contact -	Taruheru River at	Improving trend	10% improvement	50% improvement	
	swimming	Lytton Rd Bridge				
	Mahinga kai	Taruheru River at	Improving trend	10% improvement	50% improvement	
		Wi Pere Pipe				

	Drinking water	Waikanae Stream	Improving trend	10% improvement	50% improvement
	supply	at Stanley Rd			
	Animal drinking	Bridge			
	water	Sisterson Drain	Improving trend	10% improvement	50% improvement
	Irrigation and food	Site 1 at Wetland			
	production	Inflow Point			
	Mauri	Awapuni Site 6	Improving trend	10% improvement	50% improvement
	Transport and	U/S Of Rayonier			
	tauranga waka	at Fenceline			
Fish	Ecosystem health	Taruheru River at	Establish current state	TBC once current sta	te understood
	Mahinga kai	Lytton Rd Bridge			
	Fishing	Taruheru River at	Establish current state	TBC once current sta	te understood
	Threatened	Wi Pere Pipe			
	species	Waikanae Stream	Establish current state	TBC once current sta	te understood
	Mauri	at Stanley Rd			
		Bridge			
		Sisterson Drain	Establish current state	TBC once current state understood	
		Site 1 at Wetland			
		Inflow Point			
		Awapuni Site 6	Establish current state	TBC once current sta	te understood
		U/S Of Rayonier			
		at Fenceline			
Dissolved Copper		Taruheru River at	Median at less thant Detec	tion level	
		Lytton Rd Bridge			
		Taruheru River at	Median at less thant Detec	tion level	
		Wi Pere Pipe			
		Waikanae Stream	Median at less thant Detec	tion level	
		at Stanley Rd			
		Bridge			

Dissolved Zinc	Taruheru River at	Median at less thant Detection level	
	Lytton Rd Bridge		
	Taruheru River at	Median at Detection level or less	
	Wi Pere Pipe		
	Waikanae Stream	Improving trend	10% improvement
	at Stanley Rd		
	Bridge		
	Sisterson Drain	Improving trend	10% improvement
	Site 1 at Wetland		
	Inflow Point		

Turanga Flats FN	Turanga Flats FMU						
Attribute	Values Supported	Current state	Short Term Target (5 years)	Medium Term	Long Term Target (15-30		
	by this attribute			Target (10 years)	years)		
Nutrients							
Ammonia	Ecosystem health	Waipaoa River at	Stabilise levels - halt	Maintain current state – no degrading trend			
	Mahinga kai	Kanakanaia	degrading trend				
	Fishing	Waipaoa River at	Stabilise levels - halt	Maintain current state – no degrading trend Maintain current state – no degrading trend			
	Threatened species	Matawhero	degrading trend				
		Whakaahu	Stabilise levels - halt				
		Stream at	degrading trend				
		Bruntons Road					
		Taruheru River at	Stabilise levels - halt	Improving trend	B Band		
		Tuckers Road	degrading trend				
Nitrate	Ecosystem health	Waipaoa River at	Maintain current state – no d	legrading trend			
	Mahinga kai	Kanakanaia					
	Fishing	Waipaoa River at	Stabilise levels - halt	Maintain current state – no degrading trend			
		Matawhero	degrading trend				

	Animal drinking	Whakaahu	Maintain current state – no d	legrading trend	
	water	Stream at			
	Drinking water	Bruntons Road			
	supply	Taruheru River at	Stabilise levels - halt	Improving trend	B Band
		Tuckers Road	degrading trend		
Phosphate (DRP)	Ecosystem health	Waipaoa River at	Stabilise levels - halt	Improving trend	10% improvement
	Mahinga kai	Kanakanaia	degrading trend		
	Fishing	Waipaoa River at	Stabilise levels - halt	Improving trend	10% improvement
	Threatened species	Matawhero	degrading trend		
		Whakaahu	Stabilise levels - halt	Improving trend	National Bottom Line
		Stream at	degrading trend		
		Bruntons Road			
		Taruheru River at	Stabilise levels - halt	Improving trend	10% improvement
		Tuckers Road	degrading trend		
<b>Physical Attributes</b>					
Attribute	Values Supported	Current state	Short Term Target (5 years)	Medium Term	Long Term Target (15-30
	by this attribute			Target (10 years)	years)
Dissolved oxygen	Mahinga kai	Whakaahu	Improving trend	National Bottom	Mid C Band
	Ecosystem health	Stream at		Line	
	Fishing	Bruntons Road			
	Threatened Species	Waipaoa River at	establish current state	TBC once current sta	te understood
	Mauri	Kanakanaia			
		Taruheru River at	establish current state	TBC once current sta	te understood
		Tuckers Road			
Suspended fine	Ecosystem health	Waipaoa River at	Improving trend		10% improvement
sediment (Visual	Human contact -	Kanakanaia			
Clarity)	swimming	Waipaoa River at	Improving trend		10% improvement
	Threatened species	Matawhero			

	Mahinga kai	Whakaahu	Improving trend		Upper C Band
	Natural form and	Stream at			
	character	Bruntons Road			
	Drinking water	Taruheru River at	Improving trend	National Bottom	Upper C Band
	supply	Tuckers Road		Line	
	Fishing				
	Irrigation and food				
	production				
	Aquifer recharge				
	Flood protection				
	and resilience				
	Flood control and				
	land management				
	Water storage				
	Mauri				
Deposited fine	Ecosystem health	Waipaoa River at	Improving trend		National Bottom Line
sediment	Human contact –	Kanakanaia			
	swimming	Waipaoa River at	Improving trend		National Bottom Line
	Threatened species	Matawhero			
	Mahinga kai	Bridge			
	Natural Form and	Whakaahu	Improving trend	10% improvement	50% improvement
	character	Stream at			
	Fishing	Bruntons Road			
	Mauri	Taruheru River at	Improving trend	10% % improvement	50% improvement
	Transport and	Tuckers Road			
	Tauranga waka				
	Water storage				
	Flood control and				
	land management				

Flood protection and resilience				
	Sites still being determined	Improvements generally required	ТВС	
	Sites still being determined	Current state being established	ТВС	
es		•		
Values Supported by this attribute	Current state	Short Term Target (5 years)	Medium Term Target (10 years)	Long Term Target (15-30 years)
Human contact - swimming	Waipaoa River at Kanakanaia	Improving trend	20% improvement	D Band
Mahinga kai Drinking water	Waipaoa River at Matawhero	Improving trend	20% improvement	D Band
supply Animal drinking water	Whakaahu Stream at Bruntons Road	Continue improving trend		C Band
Irrigation and food production Mauri Transport and tauranga waka	Taruheru River at Tuckers Road	Improving trend	50% improvement	C Band
Ecosystem health Mahinga kai	Waipaoa River at Kanakanaia	Maintain current state – no c	legrading trend	
Natural Form and Character	Waipaoa River at Matawhero	Maintain current state – no degrading trend		
Fishing Mauri Drinking water	Whakaahu Stream at Bruntons Road	Improving Trend	Middle C Band	Upper C Band
	and resilience and resilience Values Supported by this attribute Human contact - swimming Mahinga kai Drinking water supply Animal drinking water Irrigation and food production Mauri Transport and tauranga waka Ecosystem health Mahinga kai Natural Form and Character Fishing Mauri	and resilienceSites still being determinedImage: Image: Imag	and resilienceSites still being determinedImprovements generally requiredSites still being determinedCurrent state being establishedCurrent state being establishedValues Supported by this attributeCurrent stateShort Term Target (5 years)Values Supported by this attributeWaipaoa River at Mahinga kaiImproving trendMahinga kaiWaipaoa River at MatawheroImproving trendSupplyWhakaahuContinue improving trendAnimal drinking waterStream at Bruntons RoadImproving trendIrrigation and food production MauriTaruheru River at Taransport and tauranga wakaImproving trendEcosystem health Mahinga kaiWaipaoa River at Maipaoa River at Transport and tauranga wakaMaintain current state - no c Maintain current state - no cFishing MauriWhakaahu Stream at Bruntons RoadImproving TrendMaintain current state - no c MatawheroMaintain current state - no c Maintain current state - no cFishing MauriWhakaahu Stream at Bruntons RoadImproving Trend	and resilienceSites still being determinedImprovements generally requiredTBCSites still being determinedCurrent state being establishedTBCSites still being determinedCurrent state being establishedTBCValues Supported by this attributeCurrent stateShort Term Target (5 years)Medium Term Target (10 years)Human contact - swimming Mahinga kaiWaipaoa River at MatawheroImproving trend20% improvementDrinking water supplyWaipaoa River at MatawheroImproving trend20% improvementIrrigation and food production Mauri Transport and tauranga wakaStream at Waipaoa River at River at Traukeru River at Transport and tauranga wakaImproving trend50% improvementEcosystem health Mahinga kai production MauriWaipaoa River at Tarukeru River at Transport and tauranga wakaMaintain current state – no degrading trend KanakanaiaEcosystem health Mahinga kai Mahinga kai Natural Form and Character Fishing MauriWaipaoa River at KanakanaiaMaintain current state – no degrading trend Maintain current state – no degrading trend Maintain current state – no degrading trend Maintain current state – no degrading trend 

	Animal drinking water				
Fish	Ecosystem health Mahinga kai	Waipaoa River at Kanakanaia	Establish current state	TBC once current state	e understood
	Fishing Threatened species	Waipaoa River at Matawhero	Establish current state	TBC once current state	e understood
	Mauri	Whakaahu Stream at Bruntons Road	Establish current state	TBC once current state understood	
		Taruheru River at Tuckers Road	Establish current state	TBC once current state	e understood
Macroinvertebrates	Ecosystem health Mahinga kai	Waipaoa River at Kanakanaia	Improving trend	10% improvement	50% improvement
	Fishing Threatened species	Waipaoa River at Matawhero	Improving trend	10% improvement	50% improvement
	Mauri	Whakaahu Stream at Bruntons Road	Improving trend	10% improvement	50% improvement
		Taruheru River at Tuckers Road	Improving trend	10% improvement	50% improvement
		Waipaoa Trib at Lavenham- Humphrey	Improving trend	10% improvement	50% improvement
		Waipaoa Trib at Pipiwhakao Road	Improving trend	10% improvement	50% improvement