Appendix 2: Further Recommended Amendments to Provisions – Hearing Stream 2 – Objectives and Ecosystem Health and Water Quality policies – updated during hearing 11/4/25

This document sets out only the provisions of the notified version of Plan Change 1 for which submissions were specifically received.

Provisions as notified are shown in black text. Additions are <u>underlined</u> and deletions are <u>struck through</u>. Section 42A recommended amendments are shown in <u>red text</u>. Additions are <u>underlined</u> and deletions are <u>struck through</u>.

Further amendments recommended in this rebuttal evidence are shown in <u>blue</u> <u>underline</u> or <u>strikethrough</u>.

# **SETW** Primary contact sites

Primary contact sites for Whaitua Te Whanganui-a-Tara are shown on Map 85.

means a site identified by the Wellington Regional Council that it considers is regularly used, or would be regularly used but for existing freshwater quality, for recreational activities such as swimming, paddling, boating, or watersports, and particularly for activities where there is a high likelihood of water or water vapour being ingested or inhaled.

Note: the identified sites are shown on Map 85.

#### **Objective 02**

Remove 'not applicable' icon.

#### Method M34

Apply a 'not applicable' icon to M34 such that it does not apply within the TWT and TAoP whaitua:

Method M34: Improving water quality in priority water bodies

Wellington Regional Council in conjunction with **mana whenua** will develop and implement a programme to improve water quality for **contact recreation** and **Māori customary use** in the first priority fresh and coastal water bodies identified in Schedule H2.

#### **6.16** Freshwater Action Plan programme

Add new method below M36 as follows:

### **SET W** Method M36A: Long-term wai or a vision Freshwater Action Plan

Wellington Regional Council will implement a programme to define and implement methods to reach wai ora by 2100 within a Freshwater Action Plan or Plans for Whaitua Te Whanganui-a-Tara and Te Awarua-o-Porirua Whaitua.

The long-term wai ora Freshwater Action Plan(s) will be:

- (a) developed in partnership with **mana whenua**, and be informed by engagement with catchment communities, territorial authorities and stakeholders, and
- (b) prepared and published by 2036, and
- (c) include methods to progressively deliver, monitor and review progress towards the long-term visions set out in objectives WH.O1 and P.O1, and
- (d) Identify responsibilities for implementing specific aspects of the plan(s).

Freshwater Action Plan(s) may be prepared for, or incorporate, refined actions for any aspect of wai ora identified in partnership with **mana whenua** and following engagement with the community and any affected stakeholders.

Wellington Regional Council will monitor the effectiveness of the long-term wai ora Freshwater Action Plan(s) as appropriate and, at a minimum of 5 yearly intervals from the date of publication.

# **Objective WH.01**

The health of all freshwater bodies rivers and lakes and their margins, natural wetlands, groundwater and the coastal marine area within Whaitua Te Whanganui-a-Tara is progressively improved and is wai ora by 2100.

#### **Note**

In the wai ora state:

- Āhua (natural character natural form and character) is restored where deteriorated and freshwater bodies exhibit their natural quality, rhythms, range of flows, form, hydrology and character to the extent practicable, and
- All freshwater bodies rivers and lakes have planted margins, where practicable other than where physical constraints may prevent this, and
- All freshwater bodies rivers and lakes and their margins, natural wetlands, groundwater and coastal waters have healthy functioning ecosystems and their water conditions and habitat support the presence, abundance, survival and recovery of Atrisk and Threatened species and taonga species where they would have naturally occurred, and
- Mahinga kai and kaimoana species are healthy, plentiful enough for long term harvest and are safe to harvest and eat or use, including for manuhiri and to exercise manaakitanga, and

- Mana whenua are able to undertake customary practices at a range of places throughout the catchment, and
- Water is able to be used for social and economic use benefits, provided that the health and well-being of waterbodies, freshwater ecosystems and coastal waters is not compromised.

*Note:* Objectives WH.O2 to WH.O9 set out what is needed to achieve progressive implementation of this long-term objective up to 2040. Therefore, resource consent applicants do not need to demonstrate their proposed activities align with this objective.

# **SETW** Objective WH.O2

The health and wellbeing of Te Whanganui-a-Tara's groundwater, rivers and **natural wetlands** and their margins are on a trajectory of measurable improvement towards wai ora, such that by 2040:

- (a) water quality, habitats, aquatic life, water quantity and ecological processes are at a level where the state of aquatic life ecosystem health is maintained, or where degraded, meaningful progress has been made towards improvement where degraded in accordance with WH.O9, and
- (b) natural form and character is maintained, or where degraded, improvement has been made to the hydrology of rivers, and erosion processes, including bank stability, are improved and sources of sediment are reduced to a more natural level, and the extent and condition of indigenous riparian vegetation is increased and improved, supporting ecosystem health, and
- (c) the extent and condition of indigenous riparian vegetation is increased and improved, and
- (d) the diversity, abundance, composition, structure and condition of **mahinga kai** species and communities are increased, and
- (e) huanga of mahinga kai and Māori customary use for locations identified in Schedule B (Ngā Taonga Nui a Kiwa) are maintained or improved, and
- (f) mana whenua can more safely connect with freshwater and enjoy a wider range of customary and cultural practices, including mahinga kai gathering, and
- (g) mana whenua and communities can more safely connect with freshwater and enjoy a wider range of activities, including swimming, and fishing, kayaking and rafting food gathering, and
- (h) <u>freshwater of a suitable quality</u> is available for the **health needs of people**-, and
- (i) people and communities can provide for social and economic use benefits, provided that the health and well-being of waterbodies and ecosystems is not compromised.

## **Objective WH.03**

The health and wellbeing of c Coastal water quality, and the health and wellbeing of ecosystems and habitats in Te Whanganui-a-Tara is maintained, or improved where deteriorated, to achieve the coastal water objectives set out in Table 8.1 and 8.1A, and by 2040:

- (a) sediment inputs into Mākara Estuary are reduced, and
- (b) high contaminant concentrations, including around discharge points, are reduced where causing deteriorated ecosystems, in addition to meeting the harbour and estuary wide targets for copper and zinc in Table 8.1, and
- (c) diversity, abundance, composition, structure and condition of **mahinga kai** species and communities has increased, and
- (d) huanga of mahinga kai and Māori customary use for locations identified in Schedule B (Ngā Taonga Nui a Kiwa) are maintained or improved, and
- (e) the extent and condition of estuarine seagrass, saltmarsh and brackish water submerged macrophytes are increased and improved to support abundant and diverse biota, and
- (f) coastal areas support healthy functioning ecosystems, and their water conditions and habitats support the presence, abundance, survival, and recovery of At-risk and Threatened species and taonga species, and
- (g) mana whenua can safely connect with the coastal marine area and enjoy a wider range of customary and cultural practices, including mahinga kai gathering and tauranga waka, and
- (h) mana whenua and communities can more safely connect with use the coastal marine area and enjoy a wider range of activities, including food gathering, and swimming, paddling, Māori customary use and tikanga, and
  - for coastal areas not covered by Table 9.1, in addition to relevant matters in (a)-(h) above:
- fish communities are resilient and their structure, composition and diversity are maintained, and
- (j) benthic and intertidal invertebrate communities are resilient and their structure, composition and diversity are maintained, and
- (k) there is no increase in the frequency of nuisance macroalgal blooms, and
- (l) phytoplankton levels are maintained and monitored in applicable areas of point source discharges and locations that experience riverine mouth closures with limited water mixing.

Table 8.1: Coastal water objectives

					<u>Coastal</u>	Water Mana	agement Uni	its (Map 8	<u>3)</u>	
<u>Parameter</u>	<u>Unit</u>	Statistic	Timeframe	Te Whanganui-a-Ta and estuar	•	Mākara	Estuary	Estua	<del>liomata</del> r <del>y </del> Other laries	<del>Wai Tai</del>
				Current state	<u>Target</u>	Current state	<u>Target</u>	Current state	<u>Target</u>	
Benthic marine invertebrate diversity	Subjective - State of ecosystem health and level of disturbance				<del>Maiı</del>	<del>ntain or imp</del>	<del>rove</del>			
<u>Macroalgae</u>	EQR	<u>Latest score</u>		N/A	<del>M</del> N/A	no data	M	no data	<u>M</u>	
Phytoplankton	mg chl-a/m³				Mair	ntain or imp	rove	_		
Copper in sediment	mg/kg	Mean of replicate	<u>By 2040</u>	13.7	<del>M</del> <32.5	N/A	Maintain or improve N/A	no data	М	Maintain or improve
Zinc in sediment	mg/kg	<u>samples</u>		<u>113.8</u>	<del>M</del> <200	N/A	Maintain or improve N/A	no data	M	
Muddiness	<u>% &gt;50% mud</u>	Latest score		<u>no data</u>	<u>M</u>	no data	<u>≤5</u>	no data	<u>M</u>	
i iudumos	<u>% of sample</u>	<u> </u>		<u>62.3</u>	<u>M</u>	no data	<u>&lt;10</u>	no data	<u>M</u>	
Sedimentation rate	<del>Current:Natural</del> <u>mm/year</u>	<u>5-year mean</u>		no data	M N/A	no data	<u>≤2:1</u> Improve	no data	<u>M</u>	
<del>Enterococci</del>	<del>cfu/100 mL</del>	95 <sup>th_%ile</sup>		<del>≤200</del>		<u>Maintain</u>	o <del>r improve</del>	Maintain	or improve	

M = Maintain; Maintenance in the state of a target will be assessed through:

All current state data = most recent available as at 2025

<sup>•</sup> Benchmarking against the baseline threshold and trend analysis or appropriate statistical analysis; and

Taking the impact of climate and human activity into account.

Table 8.1A: Coastal water enterococci objectives

<u>Site</u>	Current State <sup>1</sup>	<u>Target<sup>2</sup></u>
Te Whanganui-a-Tara (Harbour and estuaries)		
Petone Beach at Water Ski Club	<u>574</u>	<del>200-</del> 500
Petone Beach at Sydney Street	920	<del>200</del> -500
Petone Beach at Kiosk	<u>660</u>	<del>200-</del> 500
Sorrento Bay	<u>356</u>	<u>200</u>
Lowry Bay at Cheviot Road	<u>256</u>	200
York Bay	<u>233</u>	200
Days Bay at Wellesley College	<u>208</u>	200
Days Bay at Wharf	<u>148</u>	200
Days Bay at Moana Road	<u>272</u>	200
Rona Bay at N end of Cliff Bishop Park	<u>474</u>	<del>200-</del> 500
Rona Bay at Wharf	249	<u>200</u>
Robinson Bay at HW Shortt Rec Ground	<u>156</u>	<u>200</u>
Robinson Bay at Nikau Street	<u>101</u>	200
Wellington City Waterfront at Shed 6	<u>1365</u>	200 50% improvement towards meeting 500
Whairepo Lagoon	<u>404</u>	<del>200-</del> 500
Wellington Harbour at Taranaki St Dive Platform	<u>1800</u>	200 50% improvement towards meeting 500
Oriental Bay at Freyberg Beach	<u>51</u>	<u>200</u>
Oriental Bay at Wishing Well	200	200
Oriental Bay at Band Rotunda	<u>423</u>	<del>200-</del> 500
Balaena Bay	<u>315</u>	200
Hataitai Beach	<u>254</u>	200
Shark Bay	<u>185</u>	<u>200</u>
Mahanga Bay	<u>148</u>	<u>200</u>
Scorching Bay	<u>28</u>	<u>200</u>
Worser Bay	<u>253</u>	200
Seatoun Beach at Wharf	<u>173</u>	200
Seatoun Beach at Inglis Street	220	<u>200</u>
Breaker Bay	<u>51</u>	200
Wai Tai		
Lyall Bay at Tirangi Road	<u>452</u>	Maintain or improve 500
Lyall Bay at Onepu Road	<u>165</u>	Maintain or improve 200
Lyall Bay at Queens Drive	149	Maintain or improve 200
Princess Bay	<u>23</u>	Maintain or improve 200
Island Bay at Surf Club	<u>574</u>	Maintain or improve 500
Island Bay at Reef St Recreation Ground	<u>896</u>	Maintain or improve 500
Island Bay at Derwent Street	142	Maintain or improve 200

<u>Site</u>	Current State <sup>1</sup>	<u>Target<sup>2</sup></u>
<u>Ōwhiro Bay</u>	<u>1051</u>	Maintain or improve 50% improvement towards meeting 500
Mākara and Wainuiomata Estuaries	•	
No monitoring sites	no data	M <del>aintain or improve</del>
Any other locations		
No monitoring sites	no data	M <del>aintain or improve</del>

- 1. As at 17 December 2024, 5-year summer 95<sup>th</sup> percentile Cfu/100 ml
- 2. Cfu/100 ml 95<sup>th</sup> %ile

<u>M = Maintain; Maintenance in the state of a target will be assessed through:</u>

- Benchmarking against the baseline threshold and trend analysis or appropriate statistical analysis;
   and
- Taking the impact of climate and human activity into account.

### **Objective WH.O5**

#### **≋FW**

By 2040 the health and wellbeing of the Parangarahu Lakes and associated **natural wetlands** are on a trajectory of improvement towards wai ora, such that:

- (a) water quality, habitats, water quantity and ecological processes are at a level where the state of aquatic life is maintained, or meaningfully improved where degraded, to achieve the target attribute states in Table 8.2 where these are not met, to provide for ecosystem health, and
- (b) the lakes are not impacted by submerged invasive plants and support healthy native aquatic plants, and
- (c) the lakes function as a productive nursery with breeding habitats of indigenous species, and
- (d) riparian vegetation of at least 20 metres is present around the perimeter of each lake, other than where physical constraints may prevent this, and
- (e) the diversity, abundance, composition, structure and condition of **mahinga kai** species and communities has increased, and
- (f) mana whenua can more safely connect with and enjoy waterbodies to undertake a wider range of customary and cultural practices, including mahinga kai gathering, and
- (g) huanga of mahinga kai and Māori customary use for locations identified in Schedule B (Ngā Taonga Nui a Kiwa) are maintained or improved.

Table 8.2: Target attribute states for lakes

						Part Fresh	water Mana	gement Units	(Map 80)			<u>Other</u>
					Lake Köh	nangatera			Lake Köha	ngapiripiri		<u>lakes</u>
				Base	<u>eline</u>	<u>TA</u>	<u>S¹</u>	Base	<u>line</u>	TA	<u>S¹</u>	<u>default</u> TAS¹
<u>Parameter</u>	<u>Unit</u>	<u>Statistic</u>	<u>Timeframe</u>	Numeric	<u>State</u>	Numeric	<u>State</u>	Numeric	<u>State</u>	<u>Numeric</u>	<u>State</u>	
Phytoplankton <sup>2</sup>	mg chl-a/m³	<u>Median</u>		<u>5.0</u>	<u>C</u>	<u>≤2</u>	۸	<u>1.5</u>	٨	<u>M</u>	۸	
Phytoptankton	ilig cit-a/iii	<u>Maximum</u>		<u>35</u>	<u>U</u>	<u>≤10</u>	<u>A</u>	<u>6.0</u>	<u>A</u>	<u>IVI</u>	<u>A</u>	
<u>Total nitrogen²</u>	mg/m³	<u>Median</u>		<u>480</u>	<u>B</u>	<u>M</u>	<u>B</u>	<u>660</u>	<u>C</u>	<u>≤500</u>	<u>B</u>	
Total phosphorus <sup>2</sup>	mg/m³	<u>Median</u>		<u>40</u>	<u>C</u>	<u>≤20</u>	<u>B</u>	<u>43</u>	<u>C</u>	<u>≤20</u>	<u>B</u>	
Ammonia (toxicity)²	ma/l	<u>Median</u>		0.005	^		۸	0.003	۸		۸	
Ammonia (toxicity)	mg/L	<u>95<sup>th</sup> %ile</u>		0.024	<u>A</u>		<u>A</u>	<u>0.005</u>	<u>A</u>		<u>A</u>	
		<u>Median</u>		<u>125</u>				<u>23</u>				
Escherichia coli (E. coli)²	/100mL	<u>%&gt;260/100mL</u>	<u>By 2040</u>	<u>174</u>	Α		A	<u>0</u>	A	<u>M</u>	А	<u>M</u>
<u>Esononia don (E. don)</u>	/ TOUTILE	<u>%&gt;540/100mL</u>		<u>0</u>	Δ	<u>M</u>	Δ	<u>0</u>			Δ	
		95 <sup>th</sup> %ile		<u>350</u>				<u>186</u>				
Cyanobacteria (planktonic) <sup>2</sup>	Total biovolume mm³/L	<u>80<sup>th</sup> %ile</u>		0.248	<u>A</u>		<u>A</u>	<u>0.008</u>	<u>A</u>		<u>A</u>	
Submerged plants (natives)	Native Condition Index (% of max)	<u>Latest</u>		<u>81.4</u>	<u>A</u>		<u>A</u>	<u>35.7</u>	<u>C</u>	<u>≥75</u>	<u>A</u>	
Submerged plants (invasive species)	Invasive Impact Index (% of max)	<u>Latest</u>		<u>15.6</u>	<u>B</u>		<u>B</u>	<u>61.5</u>	<u>C</u>	<u>≤25</u>	<u>B</u>	
Lake-bottom dissolved oxygen <sup>3</sup>	mg/L	Annual minimum Insuff				<u>≥7</u> <u>A</u>		Insufficie	ent data	<u>≥7</u>		

<sup>&</sup>lt;sup>1</sup> M = Maintain; I = Improve. Maintenance, improvement or deterioration in the state of an attribute will be assessed through:

<sup>•</sup> Benchmarking against the TAS thresholds and trend analysis or appropriate statistical analysis; and

 <sup>&</sup>lt;u>Taking the impact of climate and human activity into account.</u>

 $<sup>{}^2 \, \</sup>text{Baseline state based on limited data collected over a period that is inconsistent with the monitoring requirements and baseline period defined in the National Policy Statement for Freshwater Management 2020.}$ 

<sup>&</sup>lt;sup>3</sup> Baseline state unknown; further monitoring needed to determine whether the attribute needs to be improved to the TAS or be maintained at a better state.

# **SET WE SET UP:** STATE OF THE SET OF THE SE

Groundwater flows and levels, and water quality, are maintained at levels that Groundwater health and integrity, including the confining layers of the aquifer system, are maintained and protected such that:

- (a) ensure base flows or levels in surface water bodies and springs are supported, and
- (b) salt-water intrusion is avoided and there is no landward movement of the saltwater/freshwater interface, and
- (bc) protect groundwater quality and groundwater dependent ecosystems are maintained, or improved where degraded, and
- (ed) protect ecosystems in connected surface water bodies are maintained, or improved where degraded, and
- (de) ensure that groundwater is of sufficient quality for human and stock drinking water, and
- (ef) ensure there is not a long-term decline in mean annual groundwater levels, including artesian pressures, and
- (fg) avoid aquifer consolidation is avoided, and
- (h) aquifer pressures are maintained, and
- (i) social and economic use benefits are enabled where (a)-(h) are not compromised.

# **SETW** Objective WH.O7

The physical integrity of aquitards is protected so that confined aquifer pressures are maintained.

#### **SFW** Objective WH.O8

Primary contact sites within Te Awa Kairangi/Hutt River, Pākuratahi River, Akatarawa River and Wainuiomata River are suitable for primary contact by ensuring that by the timeframe indicated within Table 8.3<del>2040</del>:

- (a) <u>Escherichia coli concentrations are at least maintained, or improved where the target attribute states in Table 8.3 are not met, and</u>
- (b) there is low risk of health effects from exposure to benthic cyanobacteria.

Table 8.3: Primary contact site objectives in rivers

<u>Pa</u>	<u>rameter</u>		Escherichia coli Septe		sive	
	Unit		<u>cfu/10</u>			
5	<u>tatistic</u>	<u>Timeframe</u>	95th per Baseline*	rcentile	TA	S
Water body	Primary contact site (Map 85)		Numeric	<u>State</u>	Numeric	<u>State</u>
	@Birchville		<u>122</u>	<u>Excellent</u>	<u>M</u>	<u>Excellent</u>
	@Maoribank Corner	]	<u>123</u>	<u>Excellent</u>	<u>M</u>	<u>Excellent</u>
To Avvo	@Poets Parks Te Awa @Upstream By 20		117	<u>Excellent</u>	<u>M</u>	<u>Excellent</u>
<u>Ie Awa</u> <u>Kairangi/Hutt</u> River	<u>@Upstream</u> <u>Silverstream Bridge</u>	<u>By 2040</u>	<u>164</u>	Good	<u>M</u>	Good
1.1170.	@Taita Rock		Insufficient data 178**	Good	Maintain at or improve to M	Good
	@Melling Bridge	By 2060	<u>704</u>	<u>Poor</u>	<u>≤540</u>	<u>Fair</u>
	@Hutt Forks		<u>199</u>	<u>Good</u>	<u>M</u>	<u>Good</u>
<u>Pākuratahi</u> <u>River</u>	<u>@Kaitoke</u> <u>Campground</u>	By 2040	Insufficient data > 3000**	<u>Poor</u>	Maintain at or improve to ≤540	<u>Fair</u>
<u>Akatarawa</u> <u>River</u>	(a)Hutt Contluence		<u>420</u>	<u>Fair</u>	<u>M</u>	<u>Fair</u>
<u>Wainuiomata</u> <u>River</u>	<u>@Richard Prouse</u> <u>Park</u>		<u>966</u>	<u>Poor</u>	<u>≤540</u>	<u>Fair</u>

<sup>\*</sup> baseline states as at 7 September 2017, except where indicated

<sup>\*\*</sup> current state, as at October 2023

# **SETW** Objective WH.O9

Water quality, habitats, natural form and character, water quantity and ecological processes of rivers are maintained or improved by ensuring that:

- (a) where a target attribute state in Table 8.4 is not met, the state of that attribute is improved throughout in all rivers and river reaches in the part Freshwater Management Unit so that the target attribute state is met within the timeframe indicated within Table 8.4, and
- (b) where a target attribute state in Table 8.4 is met, the state of that attribute is at least maintained in all rivers within the part Freshwater Management Unit, and
- (c) where any attribute in any river or river reach is in a better state than the target attribute state based on long term monitoring data, that attribute is at least maintained at the better state in every river or river reach, and
- (d) where a huanga of mahinga kai and Māori customary use for locations identified in Schedule B (Ngā Taonga Nui a Kiwa) and is not achieved, the state of the river or river reach is improved.
- (d) where improvements are required to existing wastewater or stormwater networks:
  - (i) prioritise *E.coli*/enterococci reductions that contribute to achieving the targets for **primary contact site** locations in Table 8.3, ahead of coastal targets in Table 8.1A and then the broader **part Freshwater Management Unit** *E.coli* targets in Table 8.4.
  - (ii) prioritise dissolved copper and dissolved zinc reductions in locations where macroinvertebrate target attribute state(s) in Table 8.4 are not met once the priorities in clause (i) above have been addressed, and
- (e) the targets in Table 8.4 are managed and monitored at a part Freshwater Management Unit level, by the Council on behalf of mana whenua and the wider community, and, where specific policies and rules are included in this chapter of the plan to manage an activity, and:
  - (i) when the specific policies and rules are fully satisfied, then the target attribute states activity can be considered to be consistent with the target attribute states this objective; or
  - (ii) when the specific policies and rules are not satisfied, then an assessment of the impact of an activity or discharge on the achievement of the target attribute states will be required; or
  - (iii) where policies and rules are not included in this chapter to manage the proposed activity, then an assessment of the impact of an activity or discharge on the achievement of the target attribute states will be required.

Table 8.4: Target attribute states for rivers

									Part Fr	eshwater l	Managemer	nt Units for	Te Awa Ka	airangi, Ōro	ngorongo	and Wainu	iomata (Ma	ap 79) <u>*</u>					
					rested ar	Awa Kairang nd Te Awa mainstems	Kairangi fo		:	Te Awa Ka	irangi lowe	r mainstem		<u>Te A</u>		gi rural stro mainstems		rural	,	Te Awa Ka	irangi urba	n streams	
				Wha		@ Riversto		<u>Part</u>		Hutt R. @	Boulcott		<u>Part</u>	<u>M</u>	angaroa R	. @ Te Marı	<u>ıa</u>	<u>Part</u>	Hulls	Ck adj. Re	ynolds Bac	:h Dr.	<u>Part</u>
				Basel	ine	<u>TA</u>	\S <sup>‡</sup>	<u>FMU</u> default	Base	eline	<u>TA</u>	<u>S</u> <sup>4</sup>	FMU default	Base	eline	<u>T</u> A	\S⁴	<u>FMU</u> default	Base	line²	<u>TA</u>	\S⁴	<u>FMU</u> default
<u>Parameter</u>	<u>Unit</u>	<u>Statistic</u>	<u>Timeframe</u>	<u>Numeric</u>	<u>State</u>	Numeric	<u>State</u>	TAS <sup>4</sup>	Numeric	<u>State</u>	Numeric	<u>State</u>	TAS <sup>4</sup>	Numeric	<u>State</u>	Numeric	<u>State</u>	TAS <sup>1</sup>	Numeric	<u>State</u>	Numeric	<u>State</u>	TAS <sup>‡</sup>
Periphyton biomass <sup>2</sup>	mg chl-a/m²	92 <sup>nd</sup> %ile		Insufficier	nt data	<u>≤50</u>	<u>A</u>		<u>284</u>	<u>D</u>	<u>≤120</u>	<u>B</u>	ŧ	<u>220</u>	<u>D</u>	<u>≤120</u>	<u>B</u>	<u> </u>	Insufficie	ent data	<u>≤200</u>	<u>C</u>	
Ammonia (toxicity)	mg/L	Median 95 <sup>th</sup> %ile		<u>0.002</u> <u>0.004</u>	<u>A</u>		<u>A</u>		<u>0.002</u> <u>0.003</u>	<u>A</u>	M41	<u>A</u>	м	<u>0.002</u> <u>0.01</u>	<u>A</u>	N/1	<u>A</u>		<u>0.008</u> <u>0.012</u>	<u>A</u>		<u>A</u>	
Nitrate (toxicity)	mg/L	Median 95 <sup>th</sup> %ile		<u>0.1</u> <u>0.3</u>	<u>A</u>		<u>A</u>		0.2 0.3	<u>A</u>	<u>M</u> 1	<u>A</u>	<u>M</u>	<u>0.4</u> <u>0.6</u>	<u>A</u>	<u>M</u> 1	<u>A</u>	<u>₩</u>	<u>0.2</u> <u>0.4</u>	<u>A</u>	<u>M</u> 1	<u>A</u>	<u>M</u>
Suspended fine sediment	Black disc (m)	<u>Median</u>		4	<u>A</u>	<u>M</u> 1	<u>A</u>	1	<u>2.4</u>	<u>C</u>	<u>≥2.95</u>	<u>A</u>		<u>1.5</u>	<u>D</u>	<u>≥2.22</u> 1.67	<u>ÇD</u>		<u>1.2</u>	<u>A</u>		<u>A</u>	
		<u>Median</u>		<u>22</u>		]		<u>M</u>	<u>58</u>		<u>≤58</u>			<u>170</u>		<u>≤130</u>		]	<u>1,100</u>		<u>≤130</u> <u>260</u>		
Escherichia coli (E. coli)	<u>/100mL</u>	%>260/100mL %>540/100mL		<u>5</u> <u>3</u>	<u>A</u>		<u>A</u>		<u>18</u> <u>8</u>	<u>D</u>	<u>≤18</u> <u>≤8</u>	<u>C</u>	Ī	35 18	<u>D</u>	≤30 34 ≤10 20	<u>₿ C</u>		100 79	<u>E</u>	≤ <u>34 50</u> ≤ <u>20 30</u>	<u>C D by</u> 2060	4
		<u>95<sup>th</sup> %ile</u>		<u>290</u>					<u>1,250</u>		<u>≤1,200</u>			<u>2,450</u>		<u>≤1,000</u> <u>1200</u>		<u> </u>	13,000		<u>≤1,200</u> 13,000		-
<u>Fish</u>	Fish-IBI	<u>Latest</u>		Insufficier	nt data	<u>≥34</u>	<u>A</u>		Insufficio	ent data	<u>≥34</u>	<u>A</u>	<u>M</u>	Insufficio	ent data	<u>≥34</u>	<u>A</u>		ent data 36**	<u>A**</u>	<u>≥34</u>	<u>A</u>	
Fish community health (abunda and composition)		Expert assessment <sup>3</sup>	By 2040	Insufficier	nt data	<u>N/A³</u>	A		Insuffici	ent data	<u>N/A³</u>	<u>B</u>		Insufficie	ent data	<u>N/A³</u>	<u>B</u>		Insufficie	ent data	<u>N/A³</u>	<u>e</u>	
Macroinvertebrates (1 of 2)	MCI QMCI	Median Median	unless otherwise indicated	129.6 7.0	<u>B</u>	≥130 ≥7	<u>A</u>	į.	109.1 5.5	<u>C</u>	110 5.5	<u>B</u>	<u> </u>	<u>118.3</u> <u>5.7</u>	<u>C</u>	≥118.3 ≥5.7	<u>B</u>		93.2** 3.3**	<u>D**</u>	≥ <u>90</u> ≥4.5	<u>C</u>	
Macroinvertebrates (2 of 2)	ASPM	Median	<u> </u>	0.56	<u>B</u>	≥0.6	<u>A</u>	1	0.4	<u>B</u>		<u>B</u>		0.5	<u>B</u>		<u>B</u>		0.31**	<u>C**</u>	≥0.3	<u>C</u>	
Deposited fine sediment <sup>2</sup>	%cover	Median		<u>25</u>	<u>C</u>	<u>≤13</u>	<u>A</u>	1	<u>5</u>	<u>A</u>	<u>M</u> 1	<u>A</u>		<u>0</u>	<u>A</u>	<u>M</u> 1	<u>A</u>	1	<u>11</u>	<u>B</u>	<u>M</u> 1	<u>B</u>	M
Dissolved oxygen	mg/L	1-day minimum 7-day mean minimum		Insufficier	nt data	≥ <del>7.5</del> ≥ <u>8.0</u>	A	<u>₩</u>	Insuffici	ent data	≥ <u>7.5</u> ≥ <u>8.0</u>	A		Insufficie	ent data	≥ <u>7.5</u> ≥ <u>8.0</u>	A	<u>₩</u>	Insufficie	ent data	≥7.5 ≥8.0	<u>A</u>	<u>M</u>
Dissolved inorganic nitrogen <sup>4</sup>	mg/L	<u>Median</u>		<u>0.15</u>	<u>5</u>	<u>N</u>	<u>/1</u>		<u>0.</u>	2				0.4	<u> 44</u>	<u>N</u>	<u> 1</u>		0.2	<u>24</u>			
Dissolved reactive phosphorus4	mg/L	Median 95th%ile		0.00 0.01		<u>≤0.00€</u> ≤0.		ŧ	<u>0.0</u> <u>0.0</u>		<u>N</u>	<u>11</u>	<u> </u>	<u>0.0</u> <u>0.0</u>			006 015	<u> </u>	<u>0.0</u> <u>0.0</u>		<u>M</u>	<u> 1</u>	
<u>Dissolved copper</u>	μg/L	Median 95 <sup>th</sup> %ile				<u>≤1</u> <u>≤1.4</u>	. <u>A</u>		0.3 0.6	A		<u>A</u>				<u>≤1</u> ≤1.4	<u>A</u>		1.9 3.6	<u>C</u>	≤1.4 n/a ≤1.8 n/a	B Improve within C band	
Dissolved zinc	μg/L	<u>Median</u>		<u>Insufficier</u>	nt data	<u>≤2.4</u>	A	<u>M</u>	0.5	<u>A</u>	<u>M</u> 1	<u>A</u>		<u>Insuffici</u>	ent data	<u>≤2.4</u>	A	<u>₩</u>	8.0	<u>C</u>	<u>≤8 n/a</u>	<u>B</u> Improve	<u> </u>
		95 <sup>th</sup> %ile				<u>≤8</u>	_		<u>1.9</u>	_		_				<u>≤8</u>	_		<u>19.2</u>	_	<u>≤15</u> n/a	within C band	
Ecosystem metabolism <sup>5</sup>	g-O <sub>2</sub> m-2-d-1	<u>N/A</u> ⁵											<u>A</u>	<u>4</u>									

						<u>Par</u>	rt Freshwa	ter Manag	ement Units	for Te Aw	a Kairangi	, Ōrongoı	rongo and	Wainuiom	nata (Map	) 79) <mark>*</mark>			_	t, Mākara arangarah	and Ōhari u Lakes (I	u catchme Map 79) <u>*</u>	ent and
					<u>Wai</u>	iwhetū St	<u>ream</u>		<u>v</u>	Vainuiom	ata urban	streams			Wainuio	mata rura	l streams				ment streater		South-
				Waiwh	etū S. @ \	Whites Li	ne East	<u>Part</u>	Blac	k Ck @ R	owe Parad	<u>e</u>	<u>Part</u>	Wainui		iver D/S o	f White	<u>Part</u>		<u>'</u>	<u>Kennels</u>		<u>Part</u>
				Base	eline	<u>T/</u>	AS <sup>4</sup>	FMU default	Baseli	ne²	TA	S <sup>‡</sup>	FMU default	Base			\S⁴	FMU default	Baseli	ine	<u>TA</u>	ι <mark>S⁴</mark>	FMU defaul
<u>Parameter</u>	<u>Unit</u>	<u>Statistic</u>	<u>Timeframe</u>	Numeric	<u>State</u>	Numeric	<u>State</u>	TAS <sup>1</sup>	Numeric	<u>State</u>	Numeric	<u>State</u>	TAS <sup>1</sup>	Numeric	<u>State</u>	Numeric	<u>State</u>	TAS <sup>4</sup>	Numeric	<u>State</u>	Numeric	<u>State</u>	t-TAS <sup>1</sup>
Periphyton biomass <sup>2</sup>	mg chl-a/m²	92 <sup>nd</sup> %ile		Insufficie	ent data	<u>≤200</u> <u>120</u>	<u>CB</u>	<u>M</u>	Insufficier	nt data	<u>≤200</u>	<u>C</u>	<u>M</u>	<u>324</u>	<u>D</u>	<u>≤200</u>	<u>C B</u>	Ţ	Insufficier	nt data	<u>≤200</u>	<u>C</u>	
Ammonia (toxicity)	mg/L	<u>Median</u>		0.027	<u>B</u>	<u>≤0.02</u> 0.027	<u>A B</u>	1	<u>0.025</u>	<u>B</u>	<u>≤0.03</u> 0.025	<u>A B</u>	1	0.004	<u>A</u>		<u>A</u>		0.005	<u>A</u>		<u>A</u>	
Ammonia (toxicity)	<u>ing/E</u>	95 <sup>th</sup> %ile		<u>0.076</u>	<u> </u>	<u>≤0.05</u> 0.076	<u> </u>	1	0.066	<u> </u>	<u>≤0.05</u> 0.066	<u> </u>	Ī	<u>0.025</u>	Δ	<u>M</u> 1	<u> </u>	<u>M</u>	0.023	<u> </u>	<u>M¹</u>	Δ	<u>M</u>
Nitrate (toxicity)	mg/L	Median 95 <sup>th</sup> %ile		0.5 0.9	<u>A</u>	<u>M</u> 1	<u>A</u>	<u>M</u>	<u>0.4</u> <u>0.7</u>	<u>A</u>	<u>M</u> 1	<u>A</u>	<u>M</u>	<u>0.2</u> <u>0.4</u>	<u>A</u>		<u>A</u>		<u>0.4</u> <u>1.2</u>	<u>A</u>		<u>A</u>	
Suspended fine sediment	Black disc(m)	Median		1.1	<u>A</u>	<del>"</del>	<u>A</u>	<u></u>	1.3	<u>D</u>	≥2.22	<u>C</u>		2.1	<u>D</u>	≥2.22	<u>C</u>		<u>1.6</u>	<u>D</u>	≥2.22	<u>C</u>	
		Median		<u>495</u>		<u>≤130</u>	_		1250		<u>≤130</u> <u>260</u>		1	100		≤100	_		<u>375</u>		≤260	_	
		%>260/100mL		<u>73</u>		<u>≤34</u>	C D by		<u>86</u>		<u>260</u> ≤ <u>34</u> <u>50</u>	C D bu	1	<u>18</u>		<u>≤18</u>		1	<u>62</u>		<u>≤50</u>		
Escherichia coli (E. coli)	<u>/100mL</u>	%>540/100mL		<u>42</u>	<u>E</u>	<u>≤20</u>	<u>C D by</u> 2060	<u>‡</u>	<u>71</u>	<u>E</u>	≤ <u>20</u>	<u>C D by</u> 2050	<u> </u>	7	<u>B</u>	<u>≤5</u>	<u>A</u>	<u> </u>	<u>32</u>	<u>E</u>	<u>≤30</u>	<u>D</u>	·
		95 <sup>th</sup> %ile		5,800		<u>≤1200</u>	_		4,360		30 ≤1200 4,360			1,000		<u>≤540</u>	_		6,500		<u>≤3,85</u>		
<u>Fish</u>	Fish-IBI	Latest		Insufficie	ent data	≥34	<u>A</u>	<u>M</u>	Insufficient data 30**	<u>B**</u>	<u>4,360</u> ≥34	<u>A</u>	<u>M</u>	Insufficie	ent data	≥34	<u>A</u>	<u>M</u>	Insufficient data 46**	<u>A**</u>	<u>0</u> ≥34	<u>A</u>	
Fish community health (abundance, structu	re and composition)	Expert assessment <sup>3</sup>	By 2040 unless	Insufficie	ent data	N/A <sup>3</sup>	<u>C</u>		Insufficier	nt data	<u>N/A³</u>	<u>C</u>		Insufficie	ent data	<u>N/A³</u>	<u>B</u>		Insufficien	nt data	<u>N/A³</u>	<u>C</u>	
Magazinuardahustas (4 of 2)	<u>MCI</u>	Median	otherwise	<u>55.4</u>		≥90			99**	D**	≥90		,	109.5	-	≥110		-	107.3				<u>M</u>
Macroinvertebrates (1 of 2)	<u>QMCI</u>	<u>Median</u>	indicated	<u>2.2</u>	<u>D</u>	<u>≥4.5</u>	<u>C</u>		4.1**	<u> </u>	<u>≥4.5</u>	<u>C</u>	<u> </u>	<u>4.9</u>	<u>C</u>	<u>≥5.5</u>	<u>B</u>	±	<u>5.1</u>	<u>C</u>	<u>M</u> 1	<u>C</u>	
Macroinvertebrates (2 of 2)	<u>ASPM</u>	<u>Median</u>		<u>0.1</u>	<u>D</u>	≥0.3	<u>C</u>	<u> į</u>	0.40**	<u>B**</u>	≥0.3	<u>C</u>		<u>0.4</u>	<u>B</u>	≥0.6	<u>A</u>		<u>0.4</u>	<u>B</u>		<u>B</u>	$\square$
Deposited fine sediment <sup>2</sup>	<u>%cover</u>	<u>Median</u>		<u>30</u>	<u>D</u>	<u>≤29</u>	<u>C</u>		<u>11</u>	<u>A</u>	M1	<u>A</u>		<u>20</u>	<u>C</u>	<u>≤13</u>	<u>A</u>		<u>85</u>	<u>D</u>	<u>≤27</u>	<u>C</u>	<u> </u>
<u>Dissolved oxygen</u>	mg/L	1-day minimum 7-day mean minimum		Insufficie	ent data	≥7.5 ≥8.0	<u>A</u>		Insufficier	nt data	≥7.5 ≥8.0	<u>A</u>	<u>M</u>	Insufficie	ent data	≥ <u>7.5</u> ≥ <u>8.0</u>	A	<u>M</u>	Insufficier	nt data	≥7.5 ≥8.0	<u>A</u>	<u>M</u>
Dissolved inorganic nitrogen <sup>4</sup>	mg/L	Median		0.5	<u>56</u>	<u>N</u>	<u>M</u> 1	<u>M</u>	0.5		<u>N</u>	11	1	0.1	<u>17</u>	<u> </u>	<u>И</u> 1		0.42	<u>)</u>	N	<u> 1</u>	
Dissolved reactive phosphorus <sup>4</sup>	mg/L	Median		0.0			<del>8</del> 0.024		0.02		<b>!</b>	018	1	0.0		<b>.</b>	.012	,	0.02		≤ <u>0.018</u>		
הופפטואפת ובמכנואב הוומפהווחותם.	<u>IIIg/∟</u>	95th%ile		0.0	49	≤ <u>0.04</u>	<del>19</del> 0.42		0.03	<u>5</u>	<u>≤0.</u>	<u>035</u>	<u>:</u>	0.0	23	≤ <u>0.02</u>	<u>3 0.017</u>	<u> </u>	0.06	4	<u>≤0.054</u>	<u>· 0.064</u>	<u> </u>
<u>Dissolved copper</u>	<u>µg/L</u>	Median 95 <sup>th</sup> %ile		<u>1.0</u> <u>4.0</u>	<u>C</u>	<u>≤1</u> <u>≤1.4</u> <u>4.3</u>	A C by 2050	4	1.0 2.0	<u>C</u>	<u>M</u> 1	<u>C</u>	<u>M</u>			<u>≤1</u> ≤1.4	<u>A</u>				<u>≤1</u> ≤1.4	<u>A</u>	
		Median Median		18.3				•	11.2		<u>≤11.2</u>			Insufficie	ent data	<u>≤2.4</u>		<u>M</u>	Insufficier	nt data	<u>≤2.4</u>		<u>M</u>
<u>Dissolved zinc</u>	<u>µg/L</u>	95 <sup>th</sup> %ile		51.5	<u>D</u>	≤ <u>8</u> 18.3 ≤ <u>15</u> 42	<u>B C by</u> 2050		71.2	<u>D</u>	<u>≤42</u>	<u>C</u>	<u> </u>			<u>=2.1</u> <u>≤8</u>	<u>A</u>				<u>≤8</u>	<u>A</u>	
Ecosystem metabolism	<del>g O₂m² d¹</del>	<u>N/A</u> ⁵			5 42						<u> </u>		<u>!</u>	<u>M</u>				<u> </u>					

				Part Freshw	ater Manage	ement Unit for Kor 79)*	rokoro catch	ment (Map			Part Fresh	water Manage	ment Unit for	Wellington urb	an catchmer	nt (Map79)*			
					<u>!</u>	Korokoro Stream				Kaiw	harawhara St	<u>ream</u>			W	ellington urba	<u>an</u>		Island rivers part Freshwater
				<u> </u>	Korokoro S. (	@ Cornish St. Br.		<u>Part</u>	Kaiw	vharawhara S	S. @ Ngaio Go	orge	<u>Part</u>		Karori S. @	Mākara Peak		<u>Part</u>	Management
				Basel	lin <u>e</u>	TAS	<u>+</u>	FMU default	Base	line	<u> </u>	AS <sup>4</sup>	<u>FMU</u> default	Base	line	<u>I</u>	AS <sup>4</sup>	<u>FMU</u> default	<u>Unit</u> TAS¹
<u>Parameter</u>	<u>Unit</u>	<u>Statistic</u>	<u>Timeframe</u>	Numeric**	State**	Numeric	<u>State</u>	TAS <sup>‡</sup>	Numeric	<u>State</u>	Numeric	<u>State</u>	TAS <sup>‡</sup>	Numeric	<u>State</u>	Numeric	<u>State</u>	TAS <sup>4</sup>	
Periphyton biomass <sup>2</sup>	mg chl-a/m²	92 <sup>nd</sup> %ile		Insufficier	nt data	<u>≤120</u>	<u>B</u>		<u>191</u>	<u>D</u>	≤200	<u>C</u>	<u> </u>	Insufficie	ent data	<u>≤200</u>	<u>C</u>		
Ammonia (toxicity)	mg/L	<u>Median</u>		0.002	<u>A</u>	<u>≤0.03</u>	<u>A</u>		0.004	<u>A</u>		<u>A</u>		0.009	<u>A</u>	<u>M¹</u>	<u>A</u>		
Aminonia (toxicity)	mg/L	95 <sup>th</sup> %ile		0.007	Δ	<u>≤0.05</u>	Δ	<u>₩</u>	<u>0.031</u>	Δ		<u>n</u>		0.026	<u>A</u>	IVI	<u>n</u>	M	
Nitrate (toxicity)	mg/L	<u>Median</u>		<u>0.51</u>	^	≥1	٨	<u>™</u>	<u>1.1</u>	D	<u>M</u> 1	D	<u>M</u>	<u>1.3</u>	<u>B</u>	<u>≤1.0</u>		<u>₩</u>	
NITTALE TOXICITY)	mg/L	<u>95<sup>th</sup> %ile</u>		0.93	A	<u>≥≤1.5</u>	A		<u>1.5</u>	<u>B</u>		브		<u>1.6</u>	D	<u>M</u>	<u>B</u>		
Suspended fine sediment	Black disc (m)	<u>Median</u>		3.8	<u>A</u>	<u>≥2.95</u>	<u>A</u>		<u>3.2</u>	<u>A</u>		<u>A</u>		<u>3.2</u>	<u>A</u>	<u>M</u>	<u>A</u>		
		Median	]	<u>40</u>		<u>≤130</u>			<u>530</u>		<u>≤130</u> 260			<u>1400</u>		<u>≤130</u> 260			
	,,,,	%>260/100mL	]	<u>18%</u>	<u>B</u>				<u>73</u>	] _	<u>≤34 50</u>			<u>97</u>	_	<u>≤34 50</u>	<u>€ D by</u>		
Escherichia coli (E. coli)	/100mL	%>540/100mL	1	<u>9%</u>	<u>R</u>	<u>≤10</u>	<u>B</u>	<u> </u>	<u>50</u>	<u>E</u>	≤ <u>20</u> 30	<u>&amp; D</u>	<u> </u>	<u>83</u>	<u> </u>	<u>≤20 30</u>	2060	<u> </u>	
		95th %ile	1	<u>965</u>		<u>≤1,000</u>	-		<u>5,150</u>	-	<u>≤1,200</u> 5.150			<u>4,550</u>	_	<u>≤1,200</u> 4,550			
<u>Fish</u>	Fish-IBI	<u>Latest</u>	1	<u>36</u>			<u>A</u>	<u>M</u>	Insufficient data 36**	<u>A**</u>	≥34	<u>A</u>	<u>M</u>	Insufficient data 24**	<u>C**</u>	≥34	<u>A</u>	<u>M</u>	
Fish community health (abundance, structure an	d composition)	Expert assessment <sup>3</sup>	By 2040			N/A <sup>3</sup>	<u>C</u>		Insufficie	nt data	N/A <sup>3</sup>	<u>e</u>		Insufficie	ent data	N/A <sup>3</sup>	<u>e</u>		
Marsimus de la state (4 a 50)	MCI	Median	unless otherwise	<u>113</u>		<u>≥130</u>	Δ.	1 ,	81.9	_	≥92.4		<u> </u>	91.8	<b>D</b>	≥91.8		1	<u>M</u>
Macroinvertebrates (1 of 2)	QMCI	<u>Median</u>	indicated	<u>5.1</u>	<u>C</u>	<u>≥6.5</u>	<u>A</u>	<u> </u>	<u>2.8</u>	<u>D</u>	≥4.5	<u>C</u>		<u>3.1</u>	<u>D</u>	<u>≥4.5</u>	<u>C</u>	ŧ	
Macroinvertebrates (2 of 2)	<u>ASPM</u>	<u>Median</u>		<u>0.57</u>	<u>B</u>	≥0.6	<u>A</u>		<u>0.25</u>	<u>D</u>	≥0.3	<u>C</u>	1	0.29	<u>D</u>	≥0.3	<u>C</u>	]	
Deposited fine sediment <sup>2</sup>	%cover	<u>Median</u>		<u>6%</u>	<u>A</u>	<u>≤13</u>	<u>A</u>		<u>20</u>	<u>C</u>	<u>≤13</u>	<u>A</u>	<u>.</u>	<u>25</u>	<u>C</u>	<u>≤19</u>	<u>B</u>		
Dissolved oxygen	mg/L	1-day minimum		Insufficier	nt data	<u>≥7.5</u>	<u>A</u>	<u>M</u>	Insufficie	nt data	<u>≥7.5</u>	<u>A</u>		Insufficie	ent data	<u>≥7.5</u>	<u>A</u>		
		7-day mean minimum				<u>≥8.0</u>		ļ _			≥8.0		<u>M</u>			≥8.0	_		
Dissolved inorganic nitrogen <sup>4</sup>	mg/L	Median		0.5	<u>1</u>	≤0.20			1.1		<del> </del>	M1		<u>1.2</u>		4		<u>M</u>	
Dissolved reactive phosphorus <sup>4</sup>	mg/L	Median Of the Villa	-	0.015	<u>C</u>	≤0.00		±	0.03		<del>                                     </del>	8 0.025		0.03		-	<u>M¹</u>		
		95th%ile Median	-	0.020		<u>≤0.02</u> <1	<u>: 1</u>		0.06 1 3	<u>04</u>	<u>≤0.05</u> ≤1.3 n/a	<u>B Improve</u>		1.3	02	<1.2			
Dissolved copper	<u>μg/L</u>	95 <sup>th</sup> %ile	-	0.3 0.5	Δ	<u>≤1</u> <u>≤1.4</u>	<u>A</u>		1.3 2.8	<u>C</u>	<u>≥1.3 11/a</u> ≤1.8 n/a	within C band	ŧ	1.3 5.9	<u>D</u>	<u>≤1.3</u> <u>≤4.3</u>	<u>C</u>		
		Median	1	0.5		<u>=1.4</u> ≤2.4		<u>M</u>	6.1		<u>=1.0 ma</u> ≤ <u>2.4 6.1</u>	<u>valiu</u>		16.2		<u>=4.0</u> ≤16.2		±	
Dissolved zinc	μg/L	95 <sup>th</sup> %ile	1	0.5	<u>A</u>	<u>≤8</u>	<u>A</u>		12.8	<u>B</u>	≤ <u>8 12.8</u>	<u>A B</u>		43.0	<u>D</u>	≤42	<u>C</u>		
Ecosystem metabolism	g O2 m-2 d-1	<u>N/A<sup>5</sup></u>	1					•			<u>₩</u>								

<sup>1</sup>M = Maintain; I = Improve. Maintenance, improvement or deterioration in the state of an attribute will be assessed through:

Benchmarking against the TAS thresholds and trend analysis or appropriate statistical analysis; and

Taking the impact of climate and human activity into account. <sup>2</sup> Baseline state based on limited data.

<sup>\*</sup>The A,B,C and D states to be assigned on the basis of fish community health reflecting an excellent, good, fair and poor state of aquatic ecosystem health respectively.

<sup>4</sup> Median concentration targets reflect the nutrient outcomes required by Clause 3.13 of the National Policy Statement for Freshwater Management 2020

Further monitoring needed to define baseline state and develop attribute state framework.

\* Baseline states as at 7 September 2017, except where indicated

<sup>\*\*</sup> Current state, as at 30 June 2024

### Add a new objective within Chapter 8:

### **SETW** Objective WH.O10

By 2030, there is no further decline of the health and wellbeing of Te Whanganui-a-Tara's lakes and rivers.

The following interim targets apply within Te Whanganui-a-Tara:

- (a) For all target attribute states which require an improvement, no deteriorating trend is sought by 2030, unless due to a naturally occurring process.
- (b) For any target attribute state in Tables 8.3 or 8.4 with a timeframe for improvement set at:
  - (i) 2050, the state of that attribute must be improved by 50% of the overall improvement required in the **part Freshwater Management Unit** by 2040, and
  - (ii) 2060, the state of that attribute must be improved by 50% of the overall improvement required in the part Freshwater Management Unit by 2040, and 75% by 2050.

*Note:* Sub-clause (a) of this objective is intended for state of the environment reporting. Resource consent applicants do not need to demonstrate their proposed activities align with this objective, where it can be demonstrated that target attribute states will be met within the timeframe prescribed for that target.

# **Objective P.01**

The health of Te Awarua-o-Porirua's groundwater, rivers, lakes, **natural wetlands**, estuaries, harbours and coastal marine area is progressively improved and is wai ora by 2100.

#### <del>Note</del>

In the wai ora state:

- The values of Ngāti Toa Rangatira are upheld by way of revitalising and protecting Ngāti
  Toa Rangatira practices and tikanga associated with Te Awarua-o-Porirua, and is a
  taonga of Ngāti Toa Rangatira and must be respected by others
- Mauri is restored and harbour sedimentation is reduced to a more natural level waters are in a natural state, where possible, and
- Ecological health is excellent in freshwater and coastal water environments, and
- Rivers flow naturally, with ripples riffles, runs and pools, and the river beds are stony, and
- Mahinga kai, taonga, mahinga ika and kaimoana species are healthy, abundant, diverse, present across all stages of life, sizeable, and able to be culturally harvested by mana whenua, and
- Mahinga kai, taonga, mahinga ika and kai moana species are safe to harvest and eat or use, including for mana whenua to exercise manaakitanga, and
- Mana whenua and communities are able to undertake a full range of activities, and
- Mana whenua are able to undertake cultural activities and practices, and

 Water is able to be used for social and economic use benefits, provided that the health and well-being of waterbodies, freshwater ecosystems and coastal waters is not compromised.

*Note*: Objectives P.O2 to P.O6 set out what is needed to achieve progressive implementation of this long-term objective. Therefore, resource consent applicants do not need to demonstrate their proposed activities align with this objective.

### **SETW** Objective P.O2

Te Awarua-o-Porirua's groundwater, rivers, lakes and **natural wetlands**, and their margins are on a trajectory of measurable improvement towards wai ora, such that by 2040:

- (a) water quality, habitats, aquatic life, water quantity and ecological processes are at a level where the state of aquatic life ecosystem health is maintained, or where degraded, meaningfully improved in accordance with P.O6, and
- (b) natural form and character is maintained, or where degraded, improvement has been made to limit erosion processes, including bank stability, are improved to significantly reduce the sedimentation rate in the harbour to a more natural level, and the extent and condition of indigenous riparian vegetation is increased and improved, supporting ecosystem health, and
- (c) the extent and condition of indigenous riparian vegetation is increased and improved, and
- (d) the diversity, abundance and condition of **mahinga kai** are increased so that **mana** whenua are able to harvest healthy **mahinga kai** for their people, and
- (e) huanga of mahinga kai and Māori customary use for locations identified in Schedule B (Ngā Taonga Nui a Kiwa) are maintained or improved, and
- (f) mana whenua are able to more safely connect with freshwater and are able to practice their customary and cultural practices, including mahinga kai gathering, and
- (g) mana whenua and communities can more safely connect with waterbodies and enjoy a wider range of activities, including swimming, paddling and fishing food gathering, and
- (xx) freshwater is available for the health needs of people, and
- (h) people and communities can provide for social and economic use benefits, provided that the health and well-being of waterbodies and ecosystems is not compromised, and,

### the freshwater <mark>environmental outcomes</mark> must contribute to the:

(i) the freshwater environmental outcomes must contribute to the maintenance and improvement of the health and wellbeing of estuaries, harbours and open coastal areas.

(j) protection and restoration of sites within significant values.

#### **Objective P.O3**

The health and wellbeing of c Coastal water quality, and the health and wellbeing of ecosystems and habitats in Pāuatahanui Inlet, Onepoto Arm and the open coastal areas

of Te Awarua-o-Porirua is maintained, or improved where deteriorated, to achieve the coastal water objectives set out in Table 9.1 and 9.1A, and by 2040:

- (a) <u>sediment</u> and metal loads entering the harbour arm catchments either via freshwater bodies or directly are significantly reduced, and
- (b) high contaminant concentrations, including around discharge points, are reduced where causing deteriorated ecosystems, in addition to meeting the harbour and estuary wide targets for copper and zinc in Table 9.1, and
- (c) the diversity, abundance and condition of **mahinga kai** has increased so that **mana** whenua access to healthy **mahinga kai** has increased, and
- (d) <u>huanga of mahinga kai and Māori customary use for locations identified in Schedule B (Ngā Taonga Nui a Kiwa) are maintained or improved, and</u>
- (e) the extent and condition of estuarine seagrass, saltmarsh and brackish water submerged macrophytes are increased and improved to support abundant and diverse biota, and
- (f) coastal areas support healthy functioning ecosystems, and their water conditions and habitats support the presence, abundance, survival, and recovery of **taonga species** and At-risk and Threatened species, and
- (g) mana whenua are able to safely connect with and access the coastal marine area and practice their customary and cultural tikanga, and
- (h) mana whenua and communities can more safely connect with use the coastal marine area and enjoy a wider range of activities, including food gathering, swimming, and paddling, Māori customary use and tikanga, and
  - <del>for coastal areas not covered by Table 9.1, in addition to relevant matters in (a)-(h)</del> <del>above:</del>
- (i) <u>fish communities are resilient and their structure, composition and diversity are</u> maintained, and
- (j) benthic and intertidal invertebrate communities are resilient and their structure, composition and diversity are maintained, and
- (k) there is no increase in the frequency of nuisance macroalgal blooms, and
- (l) phytoplankton levels are maintained and monitored in applicable areas of point source discharges and locations that experience riverine mouth closures with limited water mixing.

Table 9.1: Coastal water objectives

						Coa	stal Wa	nter Mana	igement l	Jnits (Ma	p 82)	
					Onepo	to Arm		F	Pāuatahai	nui Inlet		
_				Intert	<u>idal</u>	Subti	idal	Inter	<u>tidal</u>	Subt	<u>idal</u>	Open coast
<u>Parameter</u>	<u>Unit</u>	<u>Statistic</u>	<u>Timeframe</u>	Current state	<u>Target</u>	Current state	Target	Current state	Target	Current state	<u>Target</u>	
<u>Enterococci</u>	<del>cfu/ 100 mL</del>	95 <sup>th</sup> %ile	<del>2040</del>		<u>≤5</u>	<del>00</del>			<del>≤20</del>	<del>0</del>		<u>≤200</u>
<u>Macroalgae</u>	<u>EQR</u>	<u>Latest score</u>		0.71	<u>M</u>	no data	<u>M</u>	0.71	<u>M</u>	no data	<u>M</u>	
Copper in sediment	mg/kg	Mean of replicate		3.9	<u>₩</u> <32.5	<u>19.5</u>	<u>₩</u> <32.5	3.8	<del>M</del> <32.5	9.9	<u>₩</u> <32.5	
Zinc in sediment	mg/kg	<u>samples</u>	<del>N/A</del> 2040	<u>53.9</u>	<u>M</u> <200	<u>172.5</u>	<u>₩</u> <305	32.5	<u>&lt;100</u>	74.7	<100	Maintain or Improve
Muddiness	<u>% &gt;50% mud</u>	Latest score		<u>13.5</u>	<u>M</u>	no data	<u>M</u>	<u>13.5</u>	<u>M</u>	no data	<u>M</u>	
	% of sample			<u>9.3</u>	<u>M</u>	<u>94.5</u>	<u>M</u>	9.4	<u>M</u>	63.0	<u>M</u>	
Sedimentation rate	mm/year	<u>5-year mean</u>		2.7	<u>1-≤2.7</u>	9.8	<u>1≤2.7</u>	<u>1.9</u>	<u>2≤3.2</u>	<u>2.8</u>	<u>2≤3.2</u>	

M = Maintain; Maintenance in the state of a target will be assessed through:

- Benchmarking against the baseline threshold and trend analysis or appropriate statistical analysis; and
- Taking the impact of climate and human activity into account.

All current state data = most recent available as at 2025

Table 9.1A: Coastal water objectives - enterococci

Site	Current state <sup>1</sup>	Target <sup>2</sup>
Te Awarua-o-Porirua Harbour		
Waka Ama	<u>2680</u>	500 50% improvement towards meeting 500
Rowing Club	<u>1820</u>	500-50% improvement towards meeting 500
Paremata Bridge	<u>378</u>	<del>200</del> 500
Water Ski Club	<u>1083</u>	500 50% improvement towards meeting 500
<u>Open Coast</u>		
Karehana Bay at Cluny Road	408	<u>₩ 500</u>
Plimmerton Beach at Bath Street	628	<u>₩ 500</u>
Plimmerton at South Beach	738	<u>₩ 500</u>
Tītahi Bay at Bay Drive	293	<u>₩ 200</u>
Tītahi Bay at Toms Road	218	<u>₩ 200</u>
Titahi Bay at South Beach Access Road	458	<u>₩ 500</u>
Any other locations		
No monitoring sites	=	M

<sup>1.</sup> As at 17 December 2024, 5-year summer 95<sup>th</sup> %ile Cfu/100 ml

M = Maintain; Maintenance in the state of a target will be assessed through:

- Benchmarking against the baseline threshold and trend analysis or appropriate statistical analysis;
   and
- Taking the impact of climate and human activity into account.

#### **Objective P.O5**

#### **≋FW**

Groundwater flows and levels, and water quality, are maintained at levels that protect ensure that:

(a) groundwater dependent ecosystems are maintained, or improved where degraded, and

the values of connected **surface water bodies** in places where groundwater flows to surface water are maintained, or improved where degraded.

#### **SETW** Objective P.O6

Water quality, habitats, natural form and character, water quantity and ecological processes of rivers are maintained or improved by ensuring that:

(a) where a target attribute state in Table 9.2 is not met, the state of that attribute is improved throughout in all rivers and river reaches in the part Freshwater

<sup>2.</sup> Cfu/100 ml 95<sup>th</sup> %ile

- Management Unit so that the target attribute state is met within the timeframe indicated within Table 9.2, and
- (b) where a target attribute state in Table 9.2 is met, the state of that attribute is at least maintained in all rivers within the part Freshwater Management Unit, and
- (c) where any attribute in any river or river reach is in a better state than the target attribute state based on long term monitoring data, that attribute is at least maintained at the better state at the better state in every river or river reach, and
- (d) where a huanga of mahinga kai and Māori customary use for locations identified in Schedule B (Ngā Taonga Nui a Kiwa) is not achieved, the state of the river or river reach is improved.
- (e) where improvements are required to existing wastewater or stormwater networks:
  - (i) prioritise *E.coli*/enterococci reductions that contribute to achieving the targets for coastal locations noted in Table 9.1As, ahead of broader **part Freshwater**Management Unit *E.coli* targets in Table 9.2.
  - (ii) prioritise dissolved copper and dissolved reductions in locations where macroinvertebrate target attribute state(s) in Table 8.4 are not met once the priorities in clause (i) above have been addressed, and
- (f) the targets in Table 9.2 are managed and monitored at a **part Freshwater**Management Unit level, by the Council on behalf of mana whenua and the wider community, and, where specific policies and rules are included in this chapter of the plan to manage an activity, and:
  - (i) when the specific policies and rules are fully satisfied, then the activity target attribute states can be considered to be consistent with the target attribute states this objective; or
  - (ii) when the specific policies and rules are not satisfied these are not satisfied, then an assessment of the impact of an activity or discharge on the achievement of the target attribute states will be required; or
  - (iii) where policies and rules are not included in this chapter to manage the proposed activity, a specific assessment of the impact of an activity or discharge on the achievement of the target attribute states is required.

Table 9.2: Target attribute states for rivers

											Part Fre	shwater	Managem	ent Units (Ma	ap 78)*								
						<u>Taupō</u>				<u> </u>	ouewe				W	ai-O-Hata	ı			]	akapū		
				Taupō S.	@ Plimr	merton Don	<u>nain</u>	Part	Horok	iri S. @	Snodgras	<u>s</u>	Part	Duck Ck	@ Trad	ewinds Dr	. Br.	<u>Part</u>	<u>Pāuatahan</u>	ui S. @	Elmwood	Br.	Part
				Baselir	<u>1e</u>	TAS	<u>}</u>	<u>FMU</u> default	Baseli	<u>ne</u>	TAS	<u>S</u> <sup>‡</sup>	<u>FMU</u> default	Baselii	ne_	<u>TA</u>	\S⁴	<u>FMU</u> default	Baselir	<u>ie</u>	TAS <sup>4</sup>		<u>FMU</u> default
<u>Parameter</u>	<u>Unit</u>	<u>Statistic</u>	<u>Timeframe</u>	<u>Numeric</u>	<u>State</u>	Numeric	State	TAS <sup>1</sup>	Numeric	<u>State</u>	Numeric	<u>State</u>	TAS <sup>1</sup>	Numeric	<u>State</u>	Numeric	State	TAS <sup>1</sup>	Numeric	State	<u>Numeric</u>	State	TAS <sup>1</sup>
Periphyton biomass	mg chl-a/m²	92 <sup>nd</sup> %ile			N/A	<u>1</u> 2		<u>M</u>	<u>436³</u>	D	<u>≤120</u>	<u>B</u>	į	Insufficient data 31.8**	<u>A**</u>	<u>≤120</u>	<u>B</u>	<u> </u>	Insufficient	<del>data</del>	<u>≤120</u>	<u>B</u>	į
Ammonia (toxicity)	mg/L	Median 95 <sup>th</sup> %ile		0.011 0.051	<u>B</u> <sup>4</sup>	<u>≤0.03</u> <u>≤0.05</u>	<u>A</u>		0.002 0.013	<u>A</u>		<u>A</u>		0.013 0.044	<u>A</u> <sup>4</sup>	<u>M</u> 1	<u>A</u>	<u>M</u>	0.005 0.018	<u>A</u>		<u>A</u>	
		Median	1	0.031		<u>=0.00</u> ≤1		ŧ	0.6		M1		<u>M</u>	0.5		<u>≤1</u>			0.3		<u>M</u> 1		<u>M</u>
Nitrate (toxicity)	mg/L	95 <sup>th</sup> %ile		<u>2.1</u>	<u>B</u> <sup>4</sup>	<u>≤1.5</u>	<u>A</u>		<u>1.1</u>	<u>A</u>	<u></u>	<u>A</u>	<u></u>	1.6	<u>B</u> <sup>4</sup>	<u>≤1.5</u>	<u>A</u>	±	0.8	<u>A</u>		<u>A</u>	
Suspended fine sediment	Black disc (m)	<u>Median</u>	1	<u>1.2</u>	<u>A</u> 4	≥0.93	<u>A</u>	<u>M</u>	<u>2.3</u>	<u>C</u>		<u>C</u>		<u>1.2</u>	<u>A</u> 4	≥0.93	<u>A</u>	<u>M</u>	<u>1.8</u>	<u>D</u>	≥2.22	<u>C</u>	
		Median	1	<u>735</u>		<u>≤130</u> ≤260			<u>370</u>		<u>≤130</u>			<u>703</u>		<u>≤130</u>			<u>275</u>		<u>≤130</u>		
		%>260/100mL	1	<u>96</u>		<u>=200</u> ≤ <u>30 50</u>	5.0		<u>63</u>		≤ <u>30 34</u>			<u>92</u>		<u>≤30 34</u>	_		<u>55</u>	-	<u>≤20</u>		1
Escherichia coli (E. coli)	<u>/100mL</u>	%>540/100mL		<u>62</u>	<u>E</u> <sup>4</sup>	≤10 30	<u>B C</u> <u>D</u>	Ī	32	<u>E</u>	≤ <u>10 20</u>	<u>B C</u>	ŧ	<u>59</u>	<u>E</u> <sup>4</sup>	<u>≤10 20</u>	<u>&amp; D</u>	<u> </u>	18	<u>E</u>	<u>≤34</u> ≤18	<u>D</u>	Ī
		95 <sup>th</sup> %ile		<u>5,299</u>		≤1,000 5,299			<u>4,950</u>		<u>≤1,000</u> <u>1,200</u>			<u>4,783</u>		<u>≤4,200</u>			6,050		<1,200 ≤6,050		
<u>Fish</u>	Fish-IBI	<u>Latest</u>	By 2040	Insufficient data 46**	<u>A**</u>	<u>M</u> 1		<u>M</u>	Insufficient data 42**	<u>A**</u>	<u>M</u>	1	<u>₩</u>	Insufficien	t data	<u>M</u>	<u> 1</u>	<u>M</u>	Insufficient data 42**	<u>A**</u>	<u>M</u> 1		<u>M</u>
Fish community health (abundance, stru-	cture and composition)	Expert assessment <sup>5</sup>	unless otherwise	Insufficient	<del>data</del>	<u>N/A</u> 5	<u>B</u>		Insufficien	t data	<u>N/A</u> 5	<u>A</u>		Insufficien	t data	<u>N/A</u> 5	<u>B</u>		Insufficient	<del>data</del>	<u>N/A</u> ⁵	<u>B</u>	
Macroinvertebrates (1 of 2)	<u>MCI</u>	<u>Median</u>	indicated	<u>75.9**</u>	<u>D**</u>	≥100	<u>B</u>	1	<u>115.0</u>	<u>B</u>	≥130	<u>A</u>	ŧ	<u>104**</u>	D**	≥100	<u>B</u>	4	<u>101.2</u>	<u>D</u>	<u>≥105</u>	<u>B</u>	<u>‡</u>
	<u>QMCI</u>	<u>Median</u>		<u>3.5**</u>		<u>≥5</u>		-	<u>6.0</u>		<u>≥6.5</u>			4.3**		<u>≥5</u>		-	<u>3.8</u>	_	<u>≥5.25</u>		
Macroinvertebrates (2 of 2)	<u>ASPM</u>	<u>Median</u>		<u>0.17**</u>	<u>D**</u>	≥0.4	<u>B</u>		<u>0.5</u>	<u>B</u>	<u>M</u> 1	<u>B</u>		0.34	<u>C**</u>	≥0.4	<u>B</u>		<u>0.4</u>	<u>C</u>	≥0.40	<u>C</u>	<u>M</u>
Deposited fine sediment <sup>3</sup>	%cover	<u>Median</u>			-	N/A <sup>6</sup>			<u>10</u>	<u>A</u>		<u>A</u>		<u>6%</u>	<u>A**</u>	4			<u>60</u>	<u>D</u>	<u>≤27</u>	<u>C</u>	<u>!</u>
Dissolved oxygen	mg/L	1-day minimum 7-day mean minimum	-	Insufficient	data	<u>M</u> 1		<u>M</u>	Insufficien	t data				Insufficien	t data	<u>M</u>	<u> 1</u> 1		Insufficient	data			
Dissolved inorganic nitrogen <sup>7</sup>	mg/L	Median	1	0.414		≤1.0	13	1	0.64		<u>M</u>	1		0.484		-		<u>M</u>	0.33		<u>M</u> 1		
Diocorrea morganio marogen	ing/E	Median	1	0.017			<u></u>	-	<u>0.011</u>		<u></u>	-	<u>M</u>	0.018					<u>0.014</u>		<u></u>		
Dissolved reactive phosphorus <sup>7</sup>	<u>mg/L</u>	95th%ile	1	0.047		<u>M</u> 1		<u>M</u>	0.026				<u></u>	0.054		<u>M</u>	<u>11</u>		0.022				<u>M</u>
Dissolved copper	uall	Median	1	<u>0.61</u>	D4	<u>≤1</u>	D		0.03	۸4		٨		0.47	C4	<u>≤1</u>	ΛD		<u>0.06</u>	Λ4		٨	
Διοσοίνεα σομμεί	<u>μg/L</u>	95 <sup>th</sup> %ile		<u>4.69</u>	<u>D</u> <sup>4</sup>	<u>≤1.8</u>	<u>B</u>	ļ	<u>0.12</u>	<u>A</u> <sup>4</sup>	M1	<u>A</u>		<u>2.93</u>	<u>C</u> <sup>4</sup>	<u>≤1.4</u>	<u>A B</u>	4	0.27	<u>A</u> <sup>4</sup>	<u>M</u> 1	<u>A</u>	
Dissolved zinc	<u>ug/L</u>	Median 05th %ile		3.91	<u>C</u> <sup>4</sup>	<u>≤2.4</u>	<u>A</u>	_	0.07	<u>A</u> <sup>4</sup>		<u>A</u>		1.96	<u>B</u> <sup>4</sup>	<u>≤2.48.</u>	<u>A B</u>		0.11	<u>A</u> <sup>4</sup>		<u>A</u>	
Ecosystem metabolism	<del>g O<sub>2</sub> m·² d·</del> ¹	95 <sup>th</sup> %ile <u>N/A</u> <sup>8</sup>	1	<u>32.25</u>		<u>≤8</u>			<u>0.23</u>				<u>M</u>	<u>13.04</u>		<u>≤8 15</u>			<u>0.48</u>				$\dashv$
<u> Loodjotom <del>metabonom</del></u>	<u> </u>	1 1/7 1											<u>m</u>										

					Part Freshwa	ater Manage	ment Units (I	Map 78)*	
					Te Rio o Po	orirua and R	angituhi		
				Por	irua S. @ forr	ner Milk Dep	<u>ot</u>	<u>Part</u> FMU	Island rivers
				Base	eline	<u>TA</u>	\S⁴	default TAS <sup>1</sup>	TAS1
<u>Parameter</u>	<u>Unit</u>	<u>Statistic</u>	<u>Timeframe</u>	Numeric	<u>State</u>	<u>Numeric</u>	<u>State</u>		
Periphyton biomass	mg chl-a/m <sup>2</sup>	92 <sup>nd</sup> %ile		Insufficient data-45.6**	<u>A**</u>	<u>≤120</u>	<u>B</u>	Ī	
Ammonia (toxicity)	mg/L	<u>Median</u>		0.006	<u>A</u>	<u>M¹</u>	<u>A</u>	<u>M</u>	
Animonia (toxicity)	<u>mg/L</u>	95 <sup>th</sup> %ile		0.034	Δ	IVI	Δ	<u>1VI</u>	
Nitrate (toxicity)	mg/L	<u>Median</u>		0.9	<u>B</u>	<u>≤0.9</u>	<u>A</u>	+	
intrato (toxiony)	<del>mg/.</del>	95 <sup>th</sup> %ile		<u>1.6</u>	2	<u>≤1.5</u>	Δ	-	
Suspended fine sediment	Black disc (m)	<u>Median</u>		<u>1.7</u>	<u>A</u>	<u>M</u> 1	<u>A</u>	<u>M</u>	
		<u>Median</u>		<u>1400</u>		<u>≤130</u> 260			
Enghaviahia anli (E. nali)	/100mL	%>260/100mL		<u>95</u>	<u>E</u>	<u>≤20 50</u>	<u>€ D by</u>		
<u>Escherichia coli (E. coli)</u>	/100ML	<u>%&gt;540/100mL</u>		<u>83</u>	드	<u>≤34 30</u>	<u>2050</u>	ŧ	
		95 <sup>th</sup> %ile		<u>6950</u>		<u>≤1200</u> 6,950			
<u>Fish</u>	Fish-IBI	<u>Latest</u>		Insufficie	ent data	<u>N</u>	<u>1</u> 1	<u>M</u>	
Fish community health (abundance, structu	re and composition)	Expert assessment <sup>5</sup>	By 2040	Insufficie	ent data	<u>N/A</u> ⁵	<u>C</u>		
Macroinvertebrates (1 of 2)	<u>MCI</u>	<u>Median</u>	unless otherwise	<u>87.0</u>	<u>D</u>	≥90	<u>0</u>		<u>M</u>
macronivertesiates (1 of 2)	<u>QMCI</u>	<u>Median</u>	indicated	4.3	브	<u>≥4.5</u>	⊻	ŧ	
Macroinvertebrates (2 of 2)	<u>ASPM</u>	<u>Median</u>		0.3	<u>D</u>	≥0.3	<u>C</u>		
Deposited fine sediment <sup>3</sup>	%cover	<u>Median</u>		<u>20</u>	<u>C</u>	<u>M¹</u>	<u>C</u>	<u>M</u>	
Dissolved oxygen	mg/L	1-day minimum		Insufficie	ant data				
<u>Dissolved Oxygen</u>	<u>mg/E</u>	7-day mean minimum		modificie	ont data				
<u>Dissolved inorganic nitrogen<sup>7</sup></u>	mg/L	<u>Median</u>		0.9	<u>92</u>	<u>N</u>	<u>1</u> 1		
Dissolved reactive phosphorus <sup>7</sup>	mg/L	<u>Median</u>		0.0	<u>18</u>			<u>M</u>	
bissoived reactive phosphorus	<u>mg/L</u>	<u>95th%ile</u>		0.0	<u>34</u>				
Dissolved copper	<u>μg/L</u>	<u>Median</u>		<u>1.1</u>	C	<u>M¹</u>	<u>C</u>		
<u>5.0001100 00pp01</u>	<u> </u>	95 <sup>th</sup> %ile		<u>2.6</u>	<u> </u>	141_	~		
Dissolved zinc	μg/L	<u>Median</u>		<u>7.5</u>	<u>D</u>	<u>≤7.5</u>	<u>0</u>	<del></del>	
DISSUITED ENGL		95 <sup>th</sup> %ile		<u>58</u>	-	<u>≤42</u>		-	
Ecosystem metabolism	<del>g O₂ m² d⁴</del>	N/A <sup>8</sup>				<u>₩</u> 8			

- 1 M = Maintain; I = Improve. Maintenance, improvement or deterioration in the state of an attribute will be assessed through:
  - Benchmarking against the TAS thresholds and trend analysis or appropriate statistical analysis; and
     Taking the impact of climate and human activity into account.

<sup>&</sup>lt;sup>2</sup> All rivers in part Freshwater Management Unit naturally soft bottomed and unlikely to support periphyton growth (River Environment Classification group = WW/L/SS).

<sup>&</sup>lt;sup>3</sup> Baseline state based on limited data.

<sup>4</sup> Baseline state based on eWater Source model results. Further monitoring needed to confirm whether the attribute meets the TAS.

<sup>&</sup>lt;sup>5</sup> The A,B,C and D states to be assigned on the basis of fish community health reflecting an excellent, good, fair and poor state of aquatic ecosystem health respectively.

<sup>6</sup> All rivers in part Freshwater Management Unit naturally soft bottomed (River Environment Classification group = WW/L/SS).

<sup>7</sup> Median concentration targets reflect the nutrient outcomes required by Clause 3.13 of the National Policy Statement for Freshwater Management 2020

8 Further monitoring needed to define baseline state and develop attribute state framework.

<sup>\*</sup> Baseline states as at 7 September 2017, except where indicated

<sup>\*\*</sup> Current state, as at 30 June 2024

### Add a new objective within Chapter 9:

# **SETW** Objective P.O7

By 2030, there is no further decline of the health and wellbeing of Te Awarua-o-Porirua's rivers.

The following interim targets apply within Te Awarua-o-Porirua:

- (a) For all target attribute states which require an improvement, no deteriorating trend is sought by 2030, unless due to a naturally occurring process.
- (b) For any target attribute state in Table 9.2 with a timeframe for improvement set at 2050, the state of that attribute must be improved by 50% of the overall improvement required in the part Freshwater Management Unit by 2040.

*Note:* Sub-clause (a) of this objective is intended for state of the environment reporting. Resource consent applicants do not need to demonstrate their proposed activities align with this objective, where it can be demonstrated that target attribute states will be met within the timeframe prescribed for that target.

### **Schedule 28: Stormwater Contaminant Treatment**

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#### **Target Load Reductions**

To minimise the negative effect of stormwater discharges from new and redeveloped impervious surfaces on the achievement of the target attribute states for dissolved copper and zinc (Table 8.4 and Table 9.2) and the coastal objectives for copper and zinc in sediment (Table 8.1 and Table 9.1), all new and redeveloped impervious surfaces are to be treated to meet an equivalent target load reduction for copper and zinc to those set out for a raingarden/bioretention device, as per Table 1.

...

#### Policy WH.P1: Improvement of aquatic ecosystem health

Aquatic ecosystem health will be improved, where deteriorated, by:

- (a) progressively reducing the load or concentration of contaminants, particularly sediment, nutrients, pathogens and metals, entering water, and
- (b) restoring habitats, and
- (c) enhancing the natural flow regime of rivers and managing water flows and levels, including where there is interaction of flows between surface water and groundwater, and
- (d) co-ordinating and prioritising work programmes promoting non-regulatory methods that seek to improve aquatic ecosystem health, in accordance with M36-M45 of the plan in catchments that require changes to land use activities that impact on water.

# Policy WH.P2 Management of activities to achieve target attribute states and coastal water objectives

Target attribute states and coastal water objectives will be achieved by regulating discharges and land use activities in the Plan, and non-regulatory methods, including Freshwater Action Plans, by:

- (a) prohibiting unplanned greenfield development and for other greenfield developments minimising the contaminants and requiring financial contributions as to offset adverse effects from residual stormwater contaminants, and
- (b) encouraging redevelopment activities within existing urban areas to reduce the existing urban contaminant load, and
- (c) imposing hydrological controls on urban development and stormwater discharges to rivers
- (d) requiring a reduction in contaminant loads from urban wastewater and stormwater networks, and
- (e) **stabilising** stream banks by excluding **livestock** from waterbodies and planting riparian margins with indigenous vegetation, and
- (f) requiring the active management of earthworks, forestry, cultivation, and vegetation clearance activities, and
- (g) soil conservation treatment, including revegetation with woody vegetation, of land with **high erosion risk**, and
- (h) requiring farm environment plans (including Freshwater Farm Plans) to improve farm practices that impact on freshwater.

# **SETW** Policy WH.P4: Achievement of the visual clarity target attribute states

To achieve the visual clarity target attribute states in Table 8.4 in **part Freshwater**Management Units where the target attribute state is:

- (a) met, the mean annual sediment load must be at least maintained, and
- (b) where it is not met, a percentage reduction in the mean annual sediment load must be-achieved reduced as set out in Table 8.5.

<u>Table 8.5: Sediment load reductions required to achieve the visual clarity target attribute states</u>

Part Freshwater Management Unit	<u>Target</u> attribute state <u>site</u>	<u>Timeframe</u>	Median visual clarity 'baseline' 2012-2017 (m)	Baseline dSedNet mean annual load (t/year)	% reduction in baseline dSedNet mean annual load Suspended sediment load reduction from 'baseline' to meet visual clarity target
Te Awa Kairangi rural streams and rural mainstems	Mangaroa River at Te Marua	<u>2040</u>	<u>1.5</u>	<del>10,965</del>	<u>-51%</u> -17%
Te Awa Kairangi lower mainstem	<u>Hutt River at</u> <u>Boulcott</u>	<u>2040</u>	2.4	<del>102,303</del>	<del>-24%</del> -25%
Wainuiomata urban streams	Black Creek at Rowe Parade end	<u>2040</u>	<u>1.3</u>	<del>382</del>	<u>-50%</u>
Wainuiomata rural streams	Wainuiomata River downstream of White Bridge	<u>2040</u>	<u>2.1</u>	<del>12,243</del>	<del>-7%</del> -8%
Parangārehu catchment streams and south-west coast rural streams	<u>Mākara Stream</u> at Kennels	<u>2040</u>	<u>1.6</u>	<u>4,437</u>	<del>-34%</del> -38%

# Policy WH.P27: Promoting stream shading riparian planting to improve aquatic ecosystem health

**≋FW** 

Contribute to the achievement of aquatic ecosystem health by promoting riparian planting to:

- a) stabilise stream banks to reduce stream bank erosion; and
- b) the progressively shadeing streams where nutrient reductions alone will be insufficient to achieve the periphyton target attribute states in Table 8.4.

### Policy P.P1: Improvement of aquatic ecosystem health

Aquatic ecosystem health will be improved, where deteriorated, by:

(a) progressively reducing the load or concentration of contaminants, particularly sediment, nutrients, pathogens and metals, entering water, and

- (b) restoring habitats, and
- (c) enhancing the natural flow regime of rivers and managing water flows and levels, including where there is interaction of flows between surface water and groundwater, and
- (d) co-ordinating and prioritising work programmes promoting non-regulatory methods that seek to improve aquatic ecosystem health, in accordance with M36-M45 of the plan—in catchments that require changes to land use activities that impact on water.

Aquatic ecosystem health will be maintained, where healthy.

# Policy P.P2 Management of activities to achieve target attribute states and coastal water objectives

Target attribute states and coastal water objectives will be achieved by regulating discharges and land-use activities in the Plan, and non-regulatory methods, including Freshwater Action Plans, by:

- (a) prohibiting unplanned greenfield development and for other greenfield developments minimising the contaminants and requiring financial contributions as to offset adverse effects from residual stormwater contaminants, and
- (b) encouraging redevelopment activities within existing urban areas to reduce the existing urban contaminant load, and
- (c) imposing hydrological controls on urban development and stormwater discharges to rivers, and
- (d) requiring a reduction in contaminant loads from urban wastewater and stormwater networks, and
- (e) stabilising stream banks by excluding livestock from waterbodies and planting riparian margins with indigenous vegetation, and
- (f) requiring the active management of earthworks, forestry, cultivation, and vegetation clearance activities, and
- (g) <u>soil conservation treatment, including revegetation with woody</u> vegetation, of land with **high erosion risk**, and
- (h) requiring farm environment plans (including Freshwater Farm Plans) to improve farm practices that impact on freshwater.

# Policy P.P4: Achievement of the visual clarity target attribute states

To achieve the visual clarity target attribute states in Table 9.4 in part Freshwater Management Units where the target attribute state is:

- (a) met, the mean annual sediment load must be at least maintained, and
- (b) where it is not met, a percentage reduction in the mean annual sediment load must be-achieved as set out in Table 9.4.

### Contaminant load reductions

To achieve the coastal water objectives in Table 9.1 the Plan will manage land use activities and discharges into freshwater bodies and the coastal marine area to meet the sediment, zinc and copper load reductions for each **harbour arm catchment** as set out in Table 9.3.

Table 9.3: Harbour arm catchment contaminant load reductions

Coastal Water Management Unit (Map 82)	<u>Contaminant</u>	<u>Timeframe</u>	% reduction in baseline total load
	<u>Sediment</u>		<u>-40%</u>
Onepoto Arm	<del>Zinc</del>		<del>_40%</del>
	<u>Copper</u>	D., 2040	<u>-40%</u>
	<u>Sediment</u>	<del>Ву 2040</del>	<u>-40%</u>
<u>Pāuatahanui Inlet</u>	<u>Zinc</u>		<u>-40%</u>
	<del>Copper</del>		<del>-40%</del>

In addition to the **harbour arm catchment** load reductions, the mean annual sediment load must be reduced in the Takapū **part Freshwater Management Unit** as set out in Table 9.4 by 2040 to achieve the visual clarity target attribute states in Table 9.2.

<u>Table 9.4: Part Freshwater Management Unit sediment load reductions required to achieve the visual clarity target attribute state</u>

Part- Freshwater Manageme nt Unit	Target attribute state site	<u>Timeframe</u>	Median visual clarity 'baseline' 2012-2017 (m)	Baseline dSedNet mean annual load (t/year)	% reduction in baseline dSedNet mean annual load Suspended sediment load reduction from 'baseline' to meet visual clarity target
<u>Takapū</u>	<u>Pāuatahanui</u> <u>Stream at</u> <u>Elmwood</u> <u>Bridge</u>	<u>By 2040</u>	<u>1.8</u>	<del>2311</del>	<del>-24%</del> -26%

# Policy P.P25: Promoting stream shading riparian planting to improve aquatic ecosystem health

Contribute to the achievement of aquatic ecosystem health by promoting riparian planting to:

- a) stabilise stream banks to reduce stream bank erosion; and
- b) the progressively shadeing streams where nutrient reductions alone will be insufficient to achieve the periphyton target attribute states



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# **SETW** Policy P65: National Policy Statement or Freshwater Management requirements for discharge consents

#### Schedule H2

Apply a 'not applicable' icon to all of Schedule H2 such that it does not apply within the TWT and TAoP whaitua:



Schedule H2: Priorities for improvement of fresh and coastal water quality for contact recreation and Māori customary use...