

Notes for track changes: This is the final recommendation for wording of One Plan provisions made by Regional Council officers at the conclusion of the Water Hearing. It uses the Proposed One Plan provisions as notified as the base document and consolidates recommendations from the Planning Evidence and Recommendations Report (August 2009), Supplementary Report (November 2009) and End of Hearing Report (April 2010).

Words recommended to be added are shown in underline, words recommended to be removed are shown in ~~strike through~~.

Terms defined within the Proposed One Plan glossary are *italicised* and marked with an asterisk (*) symbol. Terms defined in the Resource Management Act 1991 are *italicised* and marked with a caret (^) symbol.

6 Water

6.1 Scope and Background

6.1.1 Scope

This chapter addresses the management of freshwater in the Manawatu-Wanganui Region. It covers:

- ~~W~~water ~~M~~management ~~S~~sub-zones^{*1} and ~~v~~values² – the establishment of ~~W~~water ~~M~~management ~~S~~sub-zones^{*1} and associated water management values for each ~~sub-zone~~¹, for the purpose of managing water quality, water quantity and activities in ~~the~~ beds[^] of river^s[^] and lake^s[^] beds².
- **Surface water quality** – the establishment of water quality standards for ~~river and lake~~ water bodies³, in order to give effect to the values, together with a policy regime of maintaining water quality in those ~~W~~water ~~M~~management ~~S~~sub-zones^{*1} that meet their water quality standards, and improving water quality over time in those ~~W~~water ~~M~~management ~~S~~sub-zones^{*1} that do not.
- **Groundwater quality** – the maintenance of existing groundwater quality and improving groundwater quality over time where water quality is degraded⁴.
- **Discharges and land use ~~land-use~~² activities affecting water quality** – the management of discharges into surface water, discharges onto or into land, and diffuse run-off and other land use ~~land-use~~² activities affecting surface water or groundwater quality.
- **Surface water quantity and allocation** – the establishment of minimum flows and allocation regimes for rivers, and the management of water takes or other activities affecting surface water quantity.
- **Groundwater quantity and allocation, and bores^{*}** – the establishment of ~~G~~groundwater ~~M~~management ~~Z~~zones^{*} (GWMZs^{*}),¹ identification of ~~the~~² respective allocable volumes in each GWMZ^{*3} and the active management of groundwater takes.
- **Beds of rivers and lakes** – the management of activities that disturb the beds of rivers and lakes, the management of existing and new structures in the beds of rivers and lakes₁ and the establishment of sustainable gravel extraction limits for rivers.

¹ Consequential changes as a result of changes to Schedule D.

² Minor change – Schedule 1, Clause 16(2) RMA.

³ Scope for this recommendation is found in "Report on scope for Water Chapter recommendations" Clause (ii).

⁴ WTR 7 – 311/20.

The effects of hill_country erosion on water quality are addressed in Chapter 5. The ecological impacts of takes, diversions, discharges and drainage on *rare habitats*⁵, *and threatened habitats*^{*} and *at-risk habitats*^{*} are addressed in Chapter 7.

6.1.2 Overview

Water is critical ~~to life for life to exist~~². People living in the Manawatu-Wanganui Region enjoy a temperate climate, a large number of rivers, streams and lakes and an extensive groundwater system. The Region does not experience the severity of droughts that impact on some other parts of New Zealand and generally there is enough water to meet everyone's needs. People have grown up with an expectation of⁶ access to clean, safe water. But ready access means that water has not always been valued highly. The health of the surface water resource has steadily declined in most catchments as a result.

Despite this decline, there has been a revolution around water in the past few decades. In response to public concerns, significant improvements have been made to the quality of discharges from towns and industrial *sites*^{*}. For example, ~~raw untreated~~⁶ sewage is no longer discharged directly into *waterways bodies*^{*3}, and rivers no longer ~~run red from the~~ receive⁶ blood discharged from freezing works. Many former discharges to water, particularly discharges of dairy shed effluent, are now discharged to land. New large water takes, such as those associated with hydroelectric development, are carefully managed to ensure that the downstream needs of people and ecosystems are catered for. Although there have been substantial improvements in the quality of point source discharges to water, ~~some~~⁷ improvement is still possible and is necessary.

There has been a substantial intensification within the agricultural sector in recent years. This has contributed to a vibrant and booming regional economy but has also increased pressure on ~~our~~ the Region's² water resources. There has been a significant increase in irrigation demand and the amount of nutrients leaching to surface water or groundwater. Although the impacts of agricultural intensification are less obvious than those caused by the major point source discharges and abstractions mentioned above, they have increased progressively over time.

As ~~our~~ the² Region has grown, we have significantly altered the physical nature of many of ~~our~~ its²³ *waterways bodies*^{*3} with structures, drainage and flood protection works, particularly in the Manawatu Plains. These changes have led to a poor and declining state of physical health in ~~our~~ the Region's² *water ways bodies*^{*3}.

The impact of discharges and run-off on water quality and the increasing demand for water abstraction are two of the four most critical issues addressed in this Plan.

6.1.3 Water Quantity

The demand on surface water and groundwater resources is one of the most critical issues addressed in this Plan.

Water from the two main freshwater sources within the Region – surface water (rivers and lakes) and groundwater – is abstracted for a variety of uses, including drinking water supply, stock watering supply², irrigation, electricity generation and industrial use.

⁵ Consequential change as a result of the Provisional Determinations.

⁶ WTR 8 – 311/21.

⁷ WTR 8 – 364/3.

The single largest user of water in the Region is the energy sector. Hydroelectric power generation takes are concentrated around Mount Ruapehu and on the Mangahao River. The amount of water used for power generation has not changed significantly in the past decade, although there is potential for more hydroelectricity generation in the Region over the next decade.⁸

In contrast, with the exception of consented water supply abstraction from surface water,⁹ other uses have steadily increased over the past few decades in response to stock numbers increasing, and the establishment of industrial plants. In recent years there has been a dramatic increase in water demand. From 1997 to 2004, consented groundwater takes almost doubled and consented surface water takes more than doubled (Table 6.1).

Table 6.1 Change in consented water abstraction volumes from 1997 to 2004 2009,⁹ excluding hydroelectric power generation⁸

Source	Sector	1997 to 2004 2009 percentage change in consented water takes		
		1997 (m ³ /d)	2004 2009 (m ³ /d)	Increase (%)
Groundwater	All Sectors	287,000	425,000	+45%
		290,172	537,179	+85%
Surface water	Agriculture	70,668	291,949	+313%
			385,579	+446%
	Industry	38,835	56,003	+44%
			97,782	+152%
Water supply	162,024	219,088	+34%	
		133,259	-18%	
All Sectors	271,527	567,040	+108%	
		616,620	+127%	

The greater the amount of water taken from a *waterway body*,³ the greater the potential impact on instream life, recreational activities (including² fishing and swimming), cultural/spiritual values and the ability of the *waterway body*³ to assimilate *waste*. ~~Even more~~ As² ~~important than~~ as² the volume of water abstracted is the timing of abstraction. Rivers in the Region experience natural low flows during summer, which coincides with the period of greatest demand. The taking of water during ~~winter~~ higher flows generally has little impact, ~~but even small takes during summer low flow conditions can have major impacts and~~ measures which avoid the adverse effects from takes during the more critical summer low flow conditions should be encouraged. Maintaining natural flow variability is important for the habitat requirements of fish species, natural character and water quality¹⁰. The ever-increasing demand on the Region's ~~our~~² surface water resource means that ~~we must manage it~~ must be managed² to ensure that the water taken is used efficiently, and is therefore available to as many users as possible.

Groundwater monitoring indicates that groundwater levels are stable and research indicates that there is sufficient water for all users at a regional scale. A recent increase in large groundwater takes along the west coast has raised the potential for saltwater intrusion. This occurs when enough water is removed from an aquifer to allow seawater to migrate inland. Groundwater contaminated with saltwater is no longer suitable for irrigation or as stock water. Seawater-

⁸ WTR 9 – 307/16.

⁹ Updating consented use figures – Minor change – Schedule 1, Clause 16(2) RMA.

¹⁰ WTR 9 – 45/1.

contaminated groundwater will clear with time, but the timescale is measured in centuries.

The high density of *bores** in some areas has caused localised problems. These include:

- (a) impacts on other groundwater users. Allowing too many new users to access the groundwater resource will impact on the amount that is available to existing users and can affect the ability of existing *bores** to draw water.
- (b) impacts on groundwater-fed streams, lakes and wetlands. Many of the streams, lakes and wetlands along the west coast of the Region (e.g. Lakes Papaitonga and Horowhenua)³ are dependent upon groundwater. Groundwater is particularly important during summer, as it may be the only source of inflow.

*Bores** are the main means of accessing groundwater resources. They provide the principal way of studying the subsurface environment by enabling sampling of subsurface geology, allowing direct measurement of groundwater levels and quality and allowing testing of aquifer yields. This Plan adopts the NZS 4411:2001 Environmental Standard for Drilling of Soil and Rock in its entirety for the management of *bores** (design, drilling, completion, development, testing, *maintenance**, cleaning/disinfection, record keeping and decommissioning).

6.1.4 Water Quality

There is significant variation in water quality across the Region. Streams and rivers emerging from the mountains or areas that have retained their original vegetation cover tend to have very good water quality. The one exception to this is the Whangaehu River, ~~which that~~ flows from the crater lake on Mt Ruapehu. It is naturally acidic and contains high levels of sulphur and heavy metals.

As ~~streams and rivers~~ *waterways*³ flow towards the sea, they pick up sediment and nutrients from the surrounding land. As would be expected, water quality in the lower reaches of rivers and streams is poorer than in the headwaters.

In the past, the biggest threats to water quality were municipal, (e.g., sewage), industrial (e.g., meat works and fellmongers) and agricultural (dairy shed effluent) discharges. Although considerable improvements have been made to discharges to water, ~~further measures are~~ improvement is still possible and necessary.¹¹

The intensification in agriculture during the past 10 to 15 years has been especially marked in the dairy sector. Raising stock numbers increases the quantity of dairy shed effluent requiring disposal, the quantity of stock urine produced (a concentrated source of nutrients), and the opportunities for stock to access ~~waterways~~ *bodies**.³ The agricultural sector is recognising the impact it is having on ~~the nation's~~ New Zealand's² ~~waterways~~ *bodies**³ and has started to act. The dairy sector was the first to respond, with the Dairying and Clean Streams Accord, (an agreement between Fonterra, the Ministry for the Environment, Regional Councils and others on an approach to enhance water quality). ~~However, the results of These voluntary approaches are not being seen~~ are one mechanism to assist with the as lowering of nutrient or faecal levels in ~~the water~~ *bodies** ~~rivers and further improvements are needed~~.¹²

Groundwater quality within the Region varies according to both depth and location. Generally, deeper groundwater is of higher quality. For example, shallow

¹¹ WTR 10 – 311/23.

¹² WTR 10 – 409/13.



groundwater within the Horowhenua District² near Levin has high concentrations of nitrates, which are believed to be the result of septic tank discharges and *fertiliser** use on market gardens. There have been no significant changes in groundwater quality over the length of the Regional Council's monitoring record (more than 15 years). There is no evidence that groundwater quality is deteriorating.

The overall state of freshwater quality in the Manawatu-Wanganui Region is as follows:

- (a) The middle reaches of many rivers are unsafe to swim in because of bacterial contamination, or are unpleasant to swim in because of slime (periphyton) growth (Figure 6.1). Elevated nitrate and phosphate levels promote slime growth. The slime also impacts on fish and instream invertebrate communities.
- (b) The lower reaches of many rivers have high concentrations of bacteria, nitrates, phosphates and sediments, and these levels are increasing.
- (c) There is minimal contamination of surface water from heavy metals, hydrocarbons and other toxic substances.
- (d) The quality of groundwater in the Region is generally suitable for stock needs and irrigation, with a low sodium hazard and a low-medium salinity hazard.
- (e) Nitrate levels are high in shallow groundwater in parts of the Region, but the levels have not changed during the period of monitoring.
- (f) Groundwater is free of herbicides and pesticides.

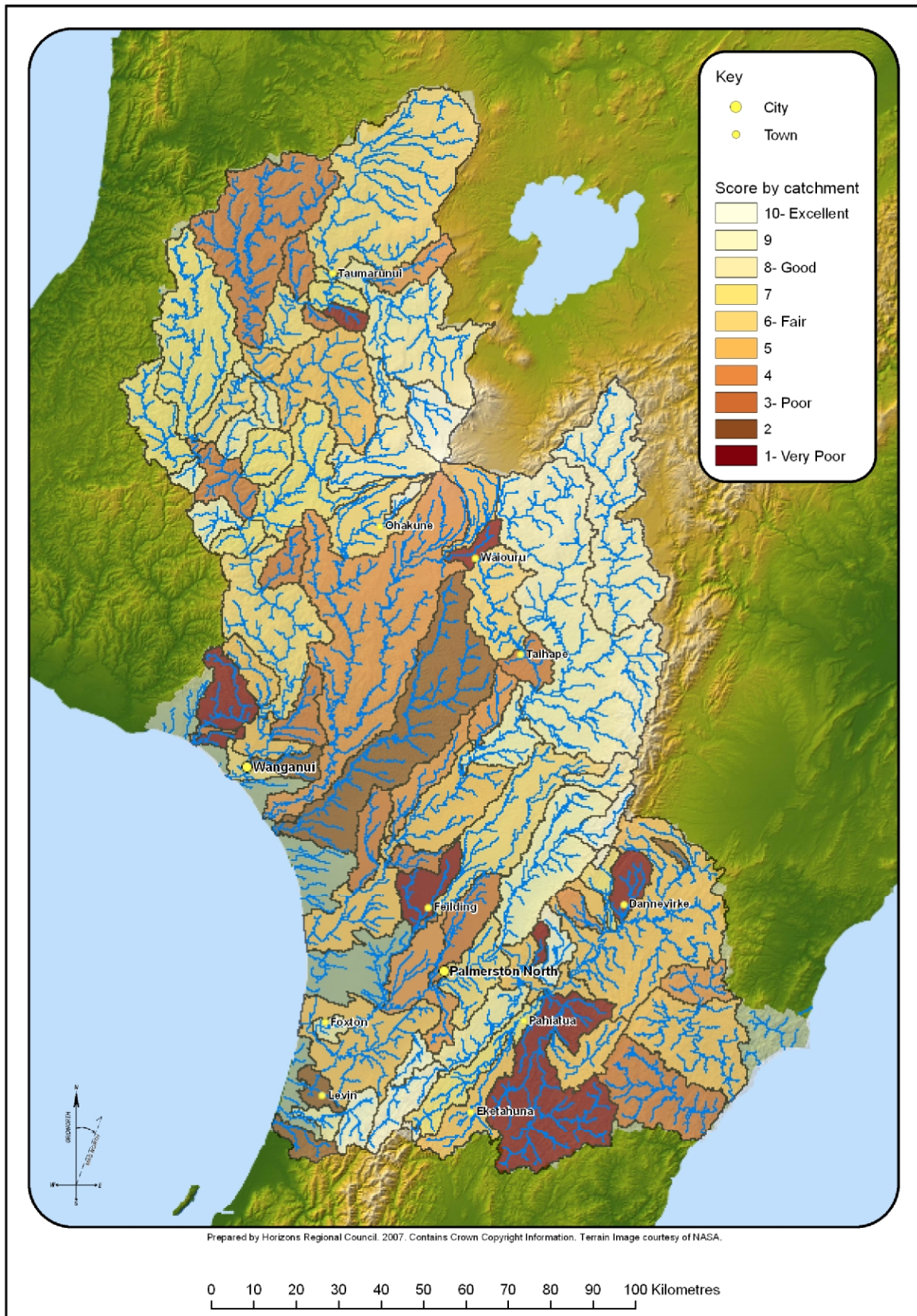


Figure 6.1 Suitability of water quality for contact recreation within the Region



6.1.5 River and Lake Beds of Rivers and Lakes³

People have always been attracted to rivers and lakes to live, work and play. Despite the economic, cultural, social and environmental importance of rivers and lakes, many of the waterways bodies^{*3} in the Region have been highly modified over the years. Works to control flooding and erosion, dams, and diversions for hydroelectricity generation can be large scale and have significant effects on the physical nature of our waterways bodies^{*.3} Smaller-scale changes like river crossings and small dams can have negative cumulative impacts. Urban expansion often alters water bodies^{* courses}.³ Gravel extraction, when not managed well, can lead to increased flooding and erosion risk.

This modification has contributed to the economic growth and well being of ~~our~~ the² Region, but it has also negatively altered the character and ecology of most waterways bodies^{*3} in the Region, impacting on cultural values attributed to waterways bodies^{*3} and leading to the loss or fragmentation of indigenous plant and animal populations.

6.2 Significant Resource Management Issues

Issue 6-1: Water quality

The quality of ~~most~~ many¹³ rivers and lakes in the Region has declined to the point that ecological values are compromised and contact recreation such as swimming is considered unsafe. The principal causes of this degradation are:

- (a) nutrient enrichment caused by run-off and ~~seepage~~ leaching¹⁴ from agricultural land, discharges of treated wastewater, and septic tanks
- (b) high turbidity and sediment loads caused by land erosion, river channel erosion, run-off from agricultural land and discharges of stormwater
- (c) pathogens from agricultural run-off, urban run-off, discharges of sewage, direct stock access to water bodies^{*} and discharges of agricultural and industrial waste^{*}.

Shallow groundwater in areas of intensive rural subdivision and horticulture in the Horowhenua and Tararua districts has elevated nitrate levels in excess of the New Zealand drinking water standard. However, the quality of groundwater in the Region is generally suitable for stock needs and irrigation, and there has been no evidence of deteriorating groundwater quality during the past 15 years.

Issue 6-2: Water quantity and allocation

The use of both surface water and groundwater has increased dramatically during the last decade. The demand for surface water in the Ohau, Oroua and parts of the upper Manawatu catchments already exceeds supply, and other catchments are experiencing marked increases. This increased demand has the potential to have adverse effects on both instream values and the natural character of streams, rivers, wetlands and lakes, if not managed.¹⁵ The amount of groundwater is generally capable of meeting demand within the Region, although there is a need to actively manage effects between bores^{*} at a local level, the effects of bores^{*} on water bodies^{*15}, and to be vigilant about the risk of saltwater intrusion along the west coast.

¹³ WTR 13 – 398/14.

¹⁴ WTR 13 – 357/55.

¹⁵ WTR 14 - 372/30.

Issue 6-3: River and lake beds of rivers and lakes²

The demand for flood and erosion control to protect many types of land use has led to significant modification of the Region's waterways bodies³. Structures required to be located² within the beds of rivers and lakes, including bridges, culverts, water intake and discharge pipes and hydroelectricity structures, also affect the natural character of waterways bodies³. These types of uses and developments, in conjunction with gravel extraction which may have beneficial effects in terms of flood mitigation¹⁶, have modified, and continue to modify the physical characteristics and ecology of many of the Region's waterways bodies³.

6.3

Objectives

Objective 6-1: Water management values

Surface Water bodies³ are managed in a manner which sustains safeguards¹⁷ their life-supporting life supporting¹⁷ capacity and recognises and provides for the values set out in Schedule ~~Ba~~ to Part I – the Regional Policy Statement.³

This objective relates to Issues 6-1, 6-2 and 6-3.³

Whāinga 6-1: He ūara whakahaere wai

Ka āta whakahaeretia ngā mata wai i runga i te tikanga tauwhiro hei tiaki oranga, ā, ka whakamanatia, ka taunakitia hoki ngā Ūara kei roto i Schedule ~~Ba~~.

[Maori translation required]

Objective 6-2: Water quality

- (a) Surface water quality is managed to ensure that:
- (i) Water quality is maintained or enhanced¹⁸ in ~~these rivers~~ water bodies³ ~~where the existing water quality is sufficient to a level which supports~~¹⁹ the values of the ~~river~~ water bodies³ set out in Schedule Ba to Part I – the Regional Policy Statement³
 - ~~(ii) water quality is enhanced in these rivers where the existing water quality is not sufficient to support the values of the river~~²⁰
 - (iii) accelerated eutrophication ~~or~~ and²¹ sedimentation of lakes³ in the Region is prevented or minimised
 - (iv) the special values of rivers³ protected by Water Conservation Orders³ and local water conservation notices³ are maintained.
- (b) Groundwater quality is managed to ensure that the existing groundwater quality is maintained or enhanced.¹⁸

This objective relates to Issue 6-1.³

¹⁶ WTR 15 – 279/3.

¹⁷ WTR16 – 363/63.

¹⁸ WTR17 - 406/23.

¹⁹ WTR 17 – 182/15.

²⁰ WTR 17 - 182/16.

²¹ WTR 17 - 440/29.



Whāinga 6-2: Te kounga o te wai

- (a) Ka whakahaeretia te kounga o te mata wai kia hua ai:
- (i) ka tiakina te kounga o te wai kei roto i ngā awa he kaha tonu te kounga o te wai hei hāpai i ngā ūara o te awa
 - (ii) ka whakapaingia te kounga o te wai kei roto i ngā awa kāore i te kaha te kounga o te wai hei hāpai i ngā ūara o te awa
 - (iii) ka āraia, ka whakaitingia rānei te tere parahanga ā-matū whakamōmona rānei, parataiaotanga rānei o ngā roto o te Rohe, ā
 - (iv) ka whakamarumarutia ngā ūara motuhake o ngā awa e ngā water conservation orders, ā, ka tiakina ngā local water conservation notices.
- (b) Ka whakahaeretia te kounga o te waiopapa kia hua ai ka tiakina te kounga o te waiopapa.
[Maori translation required]

Objective 6-3: Water[^] quantity and allocation

Water[^] quantity³ is managed to enable people, industry and agriculture to take and use water[^] to meet their reasonable needs while ~~ensuring that~~ providing for the following:³

- (a) For surface water[^]:
- (i) minimum flows and allocation regimes are set for the purpose of maintaining or enhancing²² the existing life-supporting life supporting² capacity of rivers[^] and providing for other identified values of rivers[^] ~~as necessary~~ set out in Part I – the Regional Policy Statement²³
 - (ii) in times of water[^] shortage, takes are restricted to those that are essential to the health or safety of people, communities or stock animals for drinking water² and other takes are ceased
 - (iii) the amount of water[^] taken from lakes[^] does not compromise their existing life-supporting life supporting² capacity
 - (iv) the requirements of Water Conservation Orders[^] and Local Water Conservation Notices³ are upheld.
- (b) For groundwater:
- (i) takes do not cause a significant adverse²⁴ effect[^] on the long-term groundwater yield
 - (ii) groundwater takes that are hydrologically connected to rivers[^], lakes[^] or wetlands[^] are managed within the minimum flow and allocation regimes established for those water bodies^{*}, or to protect their life-supporting life supporting² capacity
 - (iii) the effects[^] of a groundwater take on other groundwater takes are managed
 - (iv) ~~salt~~seawater² intrusion into coastal aquifers, induced by groundwater takes, is avoided.
- (c) In all cases, water[^] is used efficiently.

This objective relates to Issue 6-2.³

²² WTR 18 – 180/23.

²³ WTR 18 – 172/41.

²⁴ WTR18 – 50/3.



Whāinga 6-3: Te nui o te wai me tōna tūaritanga

Ka whakahaeretia te wai kia āhei ai te tangata, ngā ahumahi, me te hunga ahuwhehua te tango me te whakamahi i te wai hei āhua whakatutuki i ō rātou hiahia, kia hua hoki:

- (a) *Mō te mata wai:*
- (i) *ka whakatauria ngā rerenga iti me ngā tikanga whakahaere tūaritanga hei tiaki i te oranga tonutanga o ngā awa, hei taunaki hoki i ngā ūara o ngā awa e tika ana*
 - (ii) *i ngā wā kōpaka wai, ka whakatīkina te tangohanga wai hāunga hei tiaki i te hauora, te haumaru rānei o te tangata, ngā hapori, kararehe pāmu rānei, ā, ka katia rawatia te tango mō take kē atu*
 - (iii) *e kore e waimeha te oranga tonutanga mā te tango wai – ahakoa nui, iti rānei – i ngā roto, ā*
 - (iv) *ka hāpaitia ngā whakaritenga o ngā water conservation orders me ngā local water conservation notices.*
- (b) *Mō te waiopapa:*
- (i) *e kore te tangohanga wai e whakapā kaha i te huanga roa o te waiopapa*
 - (ii) *ka whakahaeretia ngā tangohanga waiopapa e pā ana ki ngā awa, roto, papa waiwai rānei i runga i ngā tikanga whakahaere rerenga wai iti, tūaritanga hoki kua whakaritea mō aua wai, hei whakamarumaruru rānei i ō rātou oranga tonutanga*
 - (iii) *ka whakahaeretia ngā pānga o ngā tangohanga waiopapa ki tangohanga waiopapa kē, ā*
 - (iv) *ka pareā te urunga o te waitai, nā te tangohanga waiopapa, ki roto i ngā kahupapa takutai moana, ā.*
- (c) *I ngā wā katoa ka whakamahia te wai i runga i te tikanga whakamau.*

[Maori translation required]

Objective 6-4: River and lake beds² of rivers¹ and lakes²

All significant²⁵ values of the beds² of rivers¹ and lakes² are recognised and provided for, including enabling future use and development of the beds² of rivers¹ and lakes² ~~beds, provided other values of the river¹ or lake² are not compromised.~~²⁵

This objective relates to Issue 6-3.³

Whāinga 6-4: Ngā awa me ngā papa roto

Ka whakamanatia, ka pukumaharatia hoki ngā ūara nui o ngā awa me ngā papa roto ehara tonu ko te whakamahi me te whakarerekē awa, papa roto hoki mea ake nei, me kī, ki te kore e waimeha ērā atu ūara o te awa, roto rānei.

[Maori translation required]

²⁵ WTR 19 – 406/25.

6.4 Policies

6.4.1 Water Management Framework Zones and Values²⁶

Policy 6-1: Water Management Framework zones and values²⁶

For the purposes of managing water quality, water quantity, and activities in the beds of rivers and lakes, the rivers and lakes in the Manawatu-Wanganui Region have been divided into the water management zones shown in Schedule D. The rivers and lakes shall be managed in a manner which recognises and provides for the values identified in Schedule D for each water management zone. The values and their associated purposes are set out in Table 6.2.

For the purpose of safeguarding the life supporting capacity of water bodies* and to avoid, remedy or mitigate adverse effects^ of activities on water^ quality, water^ quantity and the beds^ of rivers^ and lakes^, water bodies* in the Manawatu-Wanganui Region must be managed in accordance with the following framework:

- (a) The Water Management Zones* and Water Management Sub-zones* and Groundwater Management Zones* defined in Schedule Ba, Part Ba1 to Part I – the Regional Policy Statement, must be used as the units for integrated management of water bodies*
- (b) Water bodies* must be managed in a manner that recognises and provides for the surface water^ management values defined in Schedule Ba, Part Ba2 to Part I – the Regional Policy Statement. These values and their associated purposes are repeated in Table 6.2;
- (c) Surface water^ quality must be managed according to the standards set in Schedule D to Part II – the Regional Plan, which provide for the values defined for each Water Management Sub-zone*;
- (d) Surface water^ allocation must be managed according to the minimum flows and allocation limits set in Schedule B, Table B1 to Part II – the Regional Plan for each Water Management Sub-zone* and groundwater must be managed according to the allocation limits set in Schedule C to Part II – the Regional Plan, for each Groundwater Management Zone*.^{26 3}

Table 6.2 Water Management Values and Purposes

Value Group	Individual values		Management Objective
Ecosystem	NS	Natural State	The <i>water_body*</i> is maintained in its natural state
	LSC	Life-supporting Life Supporting Capacity	The <i>water_body*</i> supports healthy aquatic life/ecosystems
	SOS-A	Sites of Significance - Aquatic	Sites of significance for indigenous ⁵ aquatic biodiversity are maintained or improved
	SOS-R	Sites of Significance - Riparian	Sites of significance for indigenous ⁵ riparian biodiversity are maintained or improved
	NFS IS ¹	Native Fish Inanga ¹ Spawning	The <i>water_body*</i> sustains healthy native fish inanga spawning and fry egg development ¹

²⁶ WTR 23 – 363/69 and 456/10.

Value Group	Individual values		Management Objective
	WM ¹	<u>Whitebait* Migration</u> ¹	The <i>water_body*</i> is maintained or improved to provide safe passage of inwardly migrating juvenile native fish collectively known as <u>whitebait*</u> ¹
Recreational and Cultural	CR	Contact Recreation	The <i>water_body*</i> is suitable for contact recreation
	AM	Amenity	The amenity values of the <i>water_bodies*</i> ¹ and their margins are maintained or improved
	NF ¹	Native Fishery ¹	The <i>waterbody</i> sustains populations of native fish that can be harvested in a sustainable manner ¹
	MAU	<i>Mauri*</i>	The <i>mauri*</i> of the <i>water_body*</i> is maintained or improved
	SG ⁵	Shellfish Gathering ⁵	The <i>waterbody</i> is suitable for shellfish harvesting ⁵
	SOS-C	Sites of Significance - Cultural	Sites of significance for cultural values are maintained
	TF	Trout Fishery	The <i>water_body*</i> sustains healthy rainbow and/or brown trout fisheries
	TS	Trout Spawning	The <i>water_body*</i> meets the requirements of rainbow and brown trout spawning and larval and fry development
	AE	Aesthetics	The aesthetic values of the <i>water_body*</i> and its margins are maintained or improved
Water Use	WS	<i>Water^</i> Supply	The <i>water_body*</i> is suitable as a raw drinking <i>water^</i> source for human consumption
	IA	Industrial Abstraction	The <i>water_body*</i> is suitable as a <i>water^</i> source for industrial abstraction
	I	Irrigation	The <i>water_body*</i> is suitable as a <i>water^</i> source for irrigation
	S	Stockwater	The <i>water_body*</i> is suitable as a supply of drinking <i>water^</i> for livestock
Social/Economic	CAP	Capacity to Assimilate Pollution	The capacity of a <i>water_body*</i> to assimilate pollution is not exceeded
	FC/D ¹	Flood Control and Drainage ¹	The integrity of existing flood and riverbank erosion protection <i>structures^</i> and existing <u>drainage structures^</u> ¹ is not compromised
	D ¹	Drainage ¹	The integrity of existing drainage structures is not compromised ¹
	EI	Existing <i>Infrastructure^</i>	The integrity of existing <i>infrastructure^</i> shall not be compromised ⁵

This policy relates to Issues 6-1, 6-2 and 6-3 and Objectives 6-1, 6-2 and 6-3.³



6.4.2 Water Quality

6.4.2.1 Surface Water Quality

Policy 6-2: ~~Water quality standards~~

~~Water quality standards relating to the values described in Policy 6-1 have been developed for each water management zone*, as shown in Schedule D. The water quality standards in Schedule D shall be used for the management of surface water quality in the manner set out in Policies 6-3, 6-4 and 6-5.~~²⁷

Policy 6-3: Ongoing compliance where water quality standards are met

- (a) In each case where the existing water quality meets the relevant water quality standard within a Water Management Sub-zone^{*1}, as shown in Schedule D to Part II – the Regional Plan,³ activities shall must⁵ be managed in a manner which ensures that the water quality standard continues to be met.
- (b) For the avoidance of doubt, ~~subsection~~ (a) applies:²
 - (i) in circumstances where the existing water quality of a Water Management Sub-zone^{*1} meets all of the water quality standards for the Sub-zone^{*1} (in which case ~~subsection~~² (a) applies to every water quality standard for the Sub-zone^{*1})¹
 - (ii) in circumstances where the existing water quality of a Water Management Sub-zone^{*1} meets some of the water quality standards for the Sub-zone^{*1} (in which case ~~subsection~~² (a) applies only to those standards met).

This policy relates to Issue 6-1 and Objective 6-2.³

Policy 6-4: Enhancement where water quality standards are not met

- (a) In each case where the existing water quality does not meet the relevant water quality standard within a Water Management Sub-zone^{*1}, as shown in Schedule D to Part II – the Regional Plan,³ activities shall must⁵ be managed in a manner which maintains or enhances existing²⁸ water quality in order to meet the water quality standard for the Water Management Sub-zones^{*1} shown in Schedule D to Part II – the Regional Plan.³
- (b) For the avoidance of doubt, ~~subsection~~² (a) applies:
 - (i) in circumstances where the existing water quality of a Water Management Sub-zone^{*1} does not meet any of the water quality standards for the Sub-zone^{*1} (in which case ~~subsection~~² (a) applies to every water quality standard for the Sub-zone^{*1})¹
 - (ii) in circumstances where the existing water quality of a Water Management Sub-zone^{*1} does not meet all of the water quality standards for the Sub-zone^{*1} (in which case ~~subsection~~² (a) applies only to those standards not met).¹

This policy relates to Issue 6-1 and Objective 6-2.³

²⁷ WTR 24 – 246/25. (Policy deleted and incorporated into Policy 6-1)

²⁸ WTR 266 - 359/50.

Policy 6-5: Management of activities in areas where existing water quality is unknown

- (a) In each case where there is insufficient data to enable a comparison of the existing water quality with the relevant water quality standard as shown in Schedule D to Part II – the Regional Plan³, activities shall must⁵ be managed in a manner which:
- (i) maintains or ~~improves~~ enhances²⁹ the existing water quality
 - (ii) has regard to the likely effect of the activity on the values identified for the relevant Water Management Sub-zone^{*1}
 - (iii) has regard to relevant information about the existing water quality in upstream or downstream Water Management Sub-zones^{*1}, where such information exists.
- (b) For the avoidance of doubt, subsection² (a) applies:
- (i) in circumstances where there is insufficient data to enable a comparison of the existing water quality with any of the water quality standards for a Water Management Sub-zone^{*1} (in which case subsection² (a) applies to every water quality standard for the Sub-zone^{*1})
 - (ii) in circumstances where there is insufficient data to enable a comparison of the existing water quality with all of the water quality standards for a Water Management Sub-zone^{*1} (in which case subsection² (a) applies only to those standards with insufficient data).

This policy relates to Issue 6-1 and Objective 6-2.³

6.4.2.2 Groundwater Quality

Policy 6-6: Maintenance of groundwater quality

- (a) Discharges and land use land-use² activities shall must⁵ be managed in a manner which maintains the existing groundwater quality, or enhances groundwater quality over time where it is currently degraded.³⁰
- (b) Groundwater takes in the vicinity of the coast shall must⁵ be managed in a manner which avoids saltwater intrusion.
- (c) On-site wastewater systems must be designed to minimise potential adverse effects on the groundwater quality, particularly within areas with degraded groundwater quality.³

This policy relates to Issue 6-1 and Objective 6-2.³

6.4.2.3 Discharges and Land use Activities Affecting Water Quality

Policy 6-7: Land-use activities affecting surface water quality

- (a) **Nutrients**
- (i) Intensive farming (dairy farming, intensive sheep and beef farming, commercial vegetable growing and cropping) land-use³

²⁹ Consequential change as a result of WTR 17 – 406/23.

³⁰ WTR 28 – 180/27.



- activities shall be regulated in specified targeted Wwater Mmanagement Sub-zones^{*1}.
- (ii) For the purposes of subsection² (a)(i), specified targeted Wwater Mmanagement Sub-zones^{*1} shall be those Sub-zones^{*1} where, collectively, intensive farming land-use³ activities are the predominant cause of elevated nutrient levels in the Water Management Sub-zones^{*1}.
- (iii) Those persons carrying out intensive farming land-use³ activities in the Wwater Mmanagement Sub-zones^{*1} targeted specified¹ in subsection² (a)(i) shall be required, amongst other things, to prepare a nutrient management plan for the purposes of:
- (1) establishing the measures required to achieve the specified target¹ contaminant[^] loading rates for the relevant Wwater Mmanagement Sub-zones^{*1}, as specified in Schedule D to Part II – the Regional Plan³
 - (2) identifying best management practices to minimise nutrient leaching from farms³
 - (3) establishing programmes for implementing any required changes-best management practices^{.3}
- (b) **Faecal contamination**
- (i) Intensive farming land-use³ activities shall be regulated in specified targeted Wwater Mmanagement Sub-zones^{*1}.
- (ii) For the purposes of subsection² (b)(i), specified targeted Wwater Mmanagement Sub-zones^{*1} shall be those Sub-zones^{*1} where, collectively, intensive farming land-use³ activities are causing elevated faecal contamination levels.¹
- (iii) Those persons carrying out intensive farming land-use³ activities in the Wwater Mmanagement Sub-zones^{*1} specified targeted¹ in subsection² (b)(i) shall be required, amongst other things, to
- (1) prevent stock access to water_bodies^{*}
 - (2) mitigate against the risk of faecal contamination of water[^] from other entry points (e.g. race run-off)³
 - (3) establish programmes for implementing any required changes to reduce faecal contamination of water[^].³
- (c) **Sediment**
- (i) In those Wwater Mmanagement Sub-zones^{*1} where agricultural land-use land[^] use² activities are the predominant cause of elevated sediment levels, non-regulatory Whole Farm Business² Plans^{*} shall be prepared and implemented for the purpose of reducing soil erosion, as described in Chapter 5.¹

This policy relates to Issue 6-1 and Objective 6-2.³

Policy 6-8: Point source discharges[^] to water[^]

- (a) The management of point source discharges[^] into water[^] shall must¹ recognise and provide for the strategies for surface water[^] quality management set out in Policies 6-3, 6-4 and 6-5 after reasonable mixing^{*} while having regard to:
- (i) the degree to which the activity will adversely affect the values identified for the relevant Wwater Mmanagement Sub-zone(s)^{*1}
 - (ii) whether the discharge[^], in combination with other discharges[^] including non-point source discharges³, will cause the water[^] quality standards set in Schedule D to be breached

- (iii) the extent to which the activity is consistent with best management practices
 - (iv) the need to allow reasonable time to achieve any required improvements.
- (b) The Regional Council may make an exception to ~~subsection~~² (a) where:
- (i) in the case of *discharges*[^], the *discharge*[^] is of a temporary nature or is associated with necessary *maintenance*[^] work and the *discharge*[^] cannot practicably be avoided
 - (ii) adverse *effects*[^] can be fully offset by way of a financial contribution in accordance with Chapter 18
 - (iii) it is appropriate to adopt the *best practicable option*[^]
 - (iv) other exceptional circumstances apply
- and it is consistent with the purpose of the RMA to do so.

This policy relates to Issue 6-1 and Objective 6-2.³

~~Policy 6-9: Point source discharges to land~~

~~Discharges of contaminants onto or into land shall be managed in a manner which:~~

- ~~(a) ensures that there is no significant degradation of the existing groundwater quality~~
- ~~(b) does not result in pathogens or other toxic substances accumulating in soil or pasture to levels that would render the soil unsafe for agricultural or domestic use~~
- ~~(c) recognises and provides for the strategies for surface water quality management set out in Policies 6-3, 6-4 and 6-5, as necessary~~
- ~~(d) maximises the reuse of nutrients and water contained in the discharge to the extent practicable.~~³¹

~~Policy 6-10: Options for discharges to surface water and land~~

~~When applying for consents and making decisions on consent applications for discharges of contaminants to water or land, the opportunity to utilise alternative *discharge*[^] options or a mix of *discharge*[^] regimes, for the purpose of mitigating adverse *effects*[^], shall be considered, including but not limited to:~~

- ~~(a) discharging contaminants onto land in preference to discharging contaminants into water~~
- ~~(b) withholding from discharging contaminants into surface water at times of low flow~~
- ~~(c) adopting different treatment options for discharges to different receiving environments or at different times (including different flow regimes in surface waterbodies).~~³²

~~Policy 6-11: Human sewage discharges~~

~~Notwithstanding targets for water quality and other policies in this chapter:~~

³¹ Policy 6-9 has been incorporated in its entirety into Chapter 13 to become Policy 13-6.

³² Policy 6-10 has been incorporated in its entirety into Chapter 13 to become Policy 13- 2.



- (a) ~~all new discharges of treated human sewage shall be applied onto land, or flow overland, or pass through a rock filter or wetland treatment system before entering a surface water body~~
- (b) ~~all existing direct discharges of treated human sewage into a surface water body shall change to a treatment system described under subsection (a) by the year 2020.~~³³

6.4.3 **Water[^] Quantity and Allocation**

6.4.3.1 **Policies² applying to both Surface Water[^] and Groundwater**

Policy 6-12: Reasonable and justifiable need for water[^]

The amount of *water[^]* taken by resource users shall must⁵ be reasonable, and justifiable for the intended use. The *water[^]* must be used efficiently, and will for surface *water[^]* be restricted when the *river[^]* drops to or below its minimum flow. Consideration must be given to reasonably available alternative *water[^]* sources.³⁴

This policy relates to Issue 6-2 and Objective 6-3.³

~~In addition, the following specific measures for ensuring reasonable and justifiable use of water shall be taken into account when considering consent applications to take water for irrigation, public water supply* or industrial use, and during reviews of consent conditions for these activities.~~

- (a) ~~For irrigation, resource consent applications shall be required to meet a reasonable use test in relation to the maximum daily rate of abstraction, the irrigation return period and the seasonal or annual volume of the proposed take. When making decisions on the reasonableness of the rate and volume of take sought, the Regional Council will:

 - (i) ~~consider land use, crop water use requirements, on-site physical factors such as soil water holding capacity, and climatic factors such as rainfall variability and potential evapo-transpiration~~
 - (ii) ~~assess applications either on the basis of an irrigation application efficiency of 80% (even if the actual system being used has a lower application efficiency), or on the basis of a higher efficiency where an application is for an irrigation system with a higher efficiency~~
 - (iii) ~~link actual irrigation use to soil moisture measurements in consent conditions.~~~~
- (b) ~~For industrial uses, water allocation shall be calculated where possible in accordance with best management practices for water efficiency for that particular industry.~~
- (c) ~~For public water supplies, the following shall be considered to be reasonable:

 - (i) ~~an allocation of 300 litres per person per day for domestic needs, plus~~
 - (ii) ~~an allocation for commercial use equal to 20% of the total allocation for domestic needs, plus~~
 - (iii) ~~an allocation for industrial use calculated, where possible, in accordance with best management practices for water[^] efficiency for that particular industry, plus~~~~

³³ Policy 6-11 has been incorporated in its entirety into Chapter 13 to become Policy 13-3.

³⁴ Consequential amendments as a result of the policy shifts. Link to "Report on scope for Water Chapter recommendations" Clause (ii).

- ~~(iv) any allocation necessary to cater for the reasonable needs of livestock or agricultural practices that are connected to the public water supply* system, plus~~
- ~~(v) an allocation necessary to cater for growth, where urban growth of the municipality is zoned and is reasonably forecast, plus~~
- ~~(vi) an allocation for leakage equal to 15% of the total of subsections (i) to (v) above.~~

~~Where the existing allocation for a public water supply* exceeds the allocation calculated in accordance with subsections (i) to (vi) above, the Regional Council will establish, in consultation with the relevant Territorial Authority, a timeframe by which the existing allocation shall be reduced to the calculated amount.³⁵~~

Policy 6-13: Efficient use of water

~~Water shall be used efficiently, including by the following measures:~~

- ~~(a) requiring water audits and water budgets to check for leakages and water-use efficiency~~
- ~~(b) requiring the use of, or progressive upgrade to, infrastructure* for water distribution that minimises use and loss of water~~
- ~~(c) enabling the transfer of water permits~~
- ~~(d) raising awareness about water efficiency issues and techniques~~
- ~~(e) installing water metering and telemetry to monitor water use.³⁶~~

Policy 6-14: Consideration of alternative water sources

~~When making decisions on consent applications to take surface water, the opportunity to utilise alternative sources such as groundwater or water storage shall be considered.³⁷~~

6.4.3.2

Policies for Surface Water[^]

Policy 6-15: Overall approach for surface water[^] allocation

- (a) The requirements of *Water Conservation Orders^{^2}* shall must⁵ be given effect to under this Plan.³
- (b) ~~The provisions of this plan will not be inconsistent with the intent of local water conservation notices.~~³
- (c) Core allocations of surface *water[^]* from *rivers[^]* shall must⁵ be determined in accordance with Policies 6-16 and 6-17. Takes that comply with the relevant core allocation, when assessed in combination with all other takes, shall must⁵ be allowed.
- (d) Supplementary allocations of surface *water[^]* from *rivers[^]* shall must⁵ be determined in accordance with Policy 6-18.
- (e) Takes from *rivers[^]* shall must⁵ be apportioned, restricted or suspended in times of low at or below minimum¹ flows in accordance with the provisions of ~~Policy 6-19~~ 15-11.³
- (f) Takes of *water[^]* from *lakes[^]* shall must comply with ~~Policy 6-20~~ 15-12.³

³⁵ Policy 6-12 has been incorporated in part into Chapter 15 to become Policy 15-2.

³⁶ Policy 6-13 has been incorporated in part into Chapter 15 to become Policy 15-3.

³⁷ Policy 6-14 has been incorporated in its entirety into Chapter 15 to become Policy 15-7.



This policy relates to Issue 6-2 and Objective 6-3.³

Policy 6-16: Core water allocation and minimum flows

- (a) The taking of surface water ~~shall~~ must⁵ be managed in accordance with the minimum flows and core allocations set out for each Water Management Sub-zone^{*1} in Schedule B to Part II – the Regional Plan.³
- (b) The minimum flows and core allocations set out in Schedule B ~~shall be assessed after~~ exclude, and must continue to exclude any takes for hydro electricity lawfully established as at 31 May 2007, for hydroelectricity generation have been taken. The only exception to this will be the hydro electricity takes from Zone Whau 3c.³⁸

This policy relates to Issue 6-2 and Objective 6-3.³

Policy 6-17: Approach to setting minimum flows and core allocations

- (a) Where good hydrological information, such as a specific water resource study or a long-term flow record, is available it ~~shall~~ must⁵ be used to set minimum flows and core allocations in Schedule B to Part II – the Regional Plan.³
- (b) Where information described in (a) above is not available, the minimum flows and core allocations set out in Schedule B ~~shall~~ must⁵ generally be a minimum flow equal to the estimated or calculated one-day mean annual low flow, and a core allocation equal to a percentage of the minimum as specified in² Schedule B to Part II – the Regional Plan.³

This policy relates to Issue 6-2 and Objective 6-3.³

Policy 6-18: Supplementary water allocation

In addition to the core allocations set out in Policy 6-16, a supplementary allocation from rivers may be provided in circumstances where water is only taken when the river flow is greater than the naturalised median flow, and.³

- (a) ~~in circumstances where water is only taken when the river flow is greater than the median flow, and~~³ the total amount of water taken by way of a supplementary allocation does not exceed 10% of the natural flow in the river at the time of abstraction, or³
- (b) in circumstances where it can be shown that the supplementary allocation will not:
 - (i) increase the frequency or duration of low minimum¹ flows or lead to a significant departure from the natural flow regime, including frequency of flushing flows³⁹
 - (ii) cause any adverse effects on the values of the water body as set out in Schedule DBa¹
 - (iii) limit the ability of anyone to take water under a core allocation.

³⁸ WTR 38 – 363/87.

³⁹ WTR 40 – 372/64.

Policy 6-19: Apportioning, restricting and suspending takes in times of low flow⁴⁰

During times of low flow, takes from rivers shall be managed in the following manner:

- (a) ~~**Permitted takes** — Takes that are permitted by this Plan (surface water and groundwater takes) or are for fire-fighting purposes shall be allowed to continue regardless of river flow.~~
- (b) ~~**Essential takes** — The following core water allocation takes shall be deemed essential and shall be managed in the manner described:
 - (iv) ~~takes greater than permitted by this Plan (and therefore subject to resource consent) that are required to meet an individual's reasonable domestic needs or the reasonable needs of an individual's animals for drinking water shall be allowed to continue regardless of river flow~~
 - (v) ~~takes required to meet the reasonable needs of hospitals, other facilities providing medical treatment, marae, schools or other education facilities, or correction facilities shall be allowed to continue regardless of river flow~~
 - (vi) ~~takes required for the operation of industries which, if their take were to cease, would significantly compromise a community's ability to provide for its social, economic or cultural well-being or for its health or safety, shall be allowed to continue regardless of river flow, but shall be required to minimise the amount of water taken to the extent reasonable~~
 - (vii) ~~public water supply* takes shall be restricted to a total public water consumption calculated as follows:
 - (A) ~~an allocation of 250 litres per person per day for domestic needs, plus~~
 - (B) ~~an allocation for commercial use equal to 20% of the total allocation for domestic needs, plus~~
 - (C) ~~an allocation which meets the reasonable needs of those facilities and industries listed under subsections (b)(ii) and (b)(iii) where such facilities and industries are connected to the public water supply* system, plus~~
 - (D) ~~any allocation necessary to cater for the reasonable needs of livestock that are connected to the public water supply* system, plus~~
 - (E) ~~an allocation for leakage equal to 15% of the total of subsections (A) to (D) above.~~~~~~
- (c) ~~**Non-essential takes** — Other core water allocation takes, including irrigation takes but excluding the essential takes described under subsection (b), shall be managed in the following manner:
 - (i) ~~water takes shall be required to cease when the river drops below its minimum flow, as set out in Policy 6-16~~
 - (ii) ~~water takes shall be allowed to recommence once the river flow has risen above its minimum flow.~~~~
- (d) ~~**Meaning of 'core water allocation take'** — For the purposes of this policy, a core water allocation take means a take that has been granted consent in accordance with a core water allocation made under Policy 6-16, or in accordance with a previous core water allocation regime.~~

⁴⁰ Policy 6-19 has been incorporated in its entirety into Chapter 15 to become Policy 15-8.



Policy 6-20: Surface water allocation – lakes

Decisions on resource consent applications to take water from a lake shall ensure that there are no significant adverse effects on the values of the lake, as shown in Schedule D.

6.4.3.3

Policies for Bores and Groundwater

Policy 6-21: Overall approach for bore management and groundwater allocation

- (a) New bores* shall ~~shall~~ must⁵ be constructed and managed in accordance with Policy ~~6-22~~ 15-13.³
- (aa) Groundwater Management Zones* are mapped in Schedule C to Part II – the Regional Plan¹
- (b) Total groundwater allocations shall ~~shall~~ must⁵ comply with the annual allocable volumes for Groundwater Management Zones*¹ set out in Policy 6-23.
- (c) The measured and/or modelled effects^Δ of a proposed groundwater take on other groundwater users, surface water bodies^{*1} and saltseawater² intrusion shall ~~shall~~ must⁵ be managed in accordance with Policies ~~6-24, 6-25 and 6-26~~ 15-15, 15-16 and 15-17.³

This policy relates to Issues 6-1 and 6-2 and Objectives 6-2 and 6-3.³

Policy 6-22: Bore development and management⁴¹

- (a) ~~New bores* shall be sited to ensure adequate separation from existing bores*, and to avoid an over-concentration of bores* in a particular area, wherever practicable.~~
- (b) ~~New bores* shall generally be constructed, and bore* logs and other records prepared, in accordance with the NZS 4411:2001 Environmental Standard for Drilling of Soil and Rock.~~
- (c) ~~New bores* shall be designed to ensure a high degree of efficiency with respect to bore* development, bore* depth and diameter, and screen depth and length.~~
- (d) ~~New bores* shall be sited, constructed and used in a manner that prevents:

 - (i) ~~contaminants~~^Δ from entering the bore* from the land^Δ surface
 - (ii) ~~the wastage of water~~^Δ in artesian conditions^Δ.~~
- (e) ~~Bores* that are no longer required shall be decommissioned in general accordance with the NZS 4411:2001 Environmental Standard for Drilling of Soil and Rock.~~

Policy 6-23: Groundwater Management Zones⁴²

The total amount of groundwater taken from each *groundwater management zone** mapped in Schedule C shall comply with the annual allocable volume specified in Schedule C.

⁴¹ Policy 6-22 has been incorporated in its entirety into Chapter 15 to become Policy 15-14.

⁴² Policy 6-23 has been incorporated in its entirety into Chapter 15 to become Policy 15-10.

Policy 6-24: Effects of groundwater takes on other groundwater takes

43

- (a) ~~Consent applicants wishing to take groundwater shall generally be required to undertake pumping tests and hydrogeological assessments in order to determine likely impact on existing groundwater takes in the vicinity.~~
- (b) ~~Consent conditions restricting the rate and/or duration of pumping shall be imposed on new takes of groundwater where this is necessary to avoid significant drawdown impacts on existing groundwater takes from good quality bores* in the vicinity. A groundwater take is considered to be from a good quality bore* in circumstances where the bore* penetrates the aquifer from which water is being drawn at a depth sufficient to enable water to be drawn all year (ie., the bore* depth is below the range of seasonal fluctuations in groundwater level), the bore* is adequately maintained, the bore* is of sufficient diameter and is screened to reasonably minimise drawdown, and the bore* has a pump capable of drawing water from its base to the land surface.~~
- (c) ~~Consent conditions specifying short-term restrictions on the rate and/or duration of pumping may also be imposed on new takes of groundwater where this is necessary to avoid significant drawdown impacts on existing bores* that are not, in order to allow sufficient time for such bores* to be upgraded or replaced.~~
- (d) ~~The Regional Council may encourage consent applicants to consider the option of providing water to neighbouring properties in circumstances where this would be more practical than meeting the requirements of subsections (b) or (c).~~

Policy 6-25: Effects of groundwater takes on surface waterbodies⁴⁴

The effects of groundwater takes on surface waterbodies, including wetlands, shall be managed in the following manner:

- (a) ~~An appropriate scientific method shall be used to calculate the likely degree of connection between the groundwater and surface water at the location of the groundwater take.~~
- (b) ~~To the extent justified by the calculation under subsection (a), the groundwater take shall be assessed and managed as if it were a surface take from the water management zone(s) to which it is connected.~~

Policy 6-26: Saltwater intrusion⁴⁵

Saltwater intrusion along the coastal margins of the Region arising from groundwater takes shall be managed by the following measures:

- (a) ~~Consent applicants wishing to take groundwater within 5 km of the coastal mean high water spring line shall be required to carry out pumping tests and hydrogeological assessments in order to determine the level of drawdown at the coast and the likelihood of inducing saltwater intrusion.~~
- (b) ~~In cases where saltwater intrusion might occur, the consent application may be declined or the amount of water that can be taken shall be limited to an amount that restricts the likelihood of saltwater intrusion.~~

⁴³ Policy 6-24 has been incorporated in its entirety into Chapter 15 to become Policy 15-11.

⁴⁴ Policy 6-25 has been incorporated in its entirety into Chapter 15 to become Policy 15-12.

⁴⁵ Policy 6-26 has been incorporated in its entirety into Chapter 15 to become Policy 15-13.



- (c) — In addition, consents to take groundwater within 5 km of the coast shall contain conditions relating to the monitoring of electrical conductivity, and the restriction or suspension of takes if specified electrical conductivity thresholds are reached or exceeded. These monitoring requirements and electrical conductivity thresholds will be determined on a case by case basis.

6.4.4

Beds[^] of Rivers[^] and Lakes[^] Beds²

Policy 6-27: General management of beds[^] of rivers[^] and lakes[^] beds²

Activities in, on, under or over the beds[^] of rivers[^] and lakes[^] shall generally be managed in a manner which:

- (a) recognises and provides for the values identified in Schedule D Ba¹ to Part I – the Regional Policy Statement,¹ for the Wwater Mmanagement Sub-zone(s)^{*1} in which the activity takes place, in the manner described in Policies 6-28, 6-29 and 6-30-16-4, 16-5 and 16-6³
- (b) — avoids any significant reduction in ability of a waterbody to convey flood flows, or significant impedance to the passage of floating debris⁴⁶
- (c) — avoids any significant adverse effects on the stability and function of existing structures including flood and erosion control structures⁴⁶
- (b)(d) avoids any significant reduction in the habitat diversity, including the morphological diversity, of the water_body^{*}
- (c) — the effects[^] on natural character (including cumulative effects[^]) and public access must be avoided or mitigated in accordance with the relevant policies in Chapter 7, including Policy 7-8 which assists in understanding of the term natural character. Natural character can include the natural style and dynamic processes of the river[^] in terms of its natural character, bed[^] style and width, quality and quantity of bed[^] habitat and connectivity with its flood plain at the appropriate geomorphologic scale. Method 6-9 will assist in defining natural character.⁴⁷

This policy relates to Issue 6-3 and Objectives 6-1 and 6-4.³

- (e) — manages effects on natural character and public access in accordance with the relevant policies in Chapter 7⁴⁶
- (f) — provides for the safe passage of fish both upstream and downstream⁴⁶
- (g) — ensures that the existing nature and extent of navigation of the water body are not obstructed⁴⁶
- (h) — ensures that access required for the maintenance of essential works and services is not obstructed.⁴⁶

~~Policy 6-28: Activities in waterbodies with a Value of Natural State, Sites of Significance – Cultural, or Sites of Significance – Aquatic~~

~~In those water management zones^{*} with a Value of Natural State, Sites of Significance – Cultural, or Sites of Significance – Aquatic, as shown in Schedule D,~~

⁴⁶ Policy 6-27 has been incorporated in part into Chapter 16 to become Policy 16-3.

⁴⁷ WTR 50 – 372/75.

activities in, on, under or over the beds of rivers and lakes shall be managed in a manner which:

- (a) — avoids adverse effects on these values
- (b) — maintains the habitat and spawning requirements of the species identified in Schedule D as being significant within the subject water management sub-zones*.⁴⁸

Policy 6-29: Activities in waterbodies within a flood control or drainage scheme

In those water management sub-zones* within a flood control or drainage scheme as shown in Schedule I, activities in, on, under or over the beds of rivers and lakes shall be managed in a manner which:

- (a) — enables the level of flood hazard and erosion control existing at the time of notification of this Plan to be maintained within river and drainage schemes
- (b) — maintains other values associated with the waterbody, unless functional constraints make this impractical, in which case adverse effects on other values shall be mitigated or offset or compensated by way of a financial contribution in accordance with the policies in Chapter 18.⁴⁹

Policy 6-30: Activities in waterbodies with other values

In those water management zones* not valued for Natural State, Sites of Significance – Cultural, Sites of Significance – Aquatic, or within a flood control or drainage, activities in, on, under or over the beds of rivers and lakes shall be managed in a manner which:

- (a) — avoids, remedies or mitigates significant adverse effects on these other values, or (b) provides consent applicants with the option of making a financial contribution to offset or compensate for adverse effects in accordance with the policies in Chapter 18.⁵⁰

Policy 6-31: Essential and beneficial activities

Notwithstanding Policies 6-27 to 6-30, activities in, on, under or over the beds of rivers and lakes that are essential or result in an environmental benefit shall generally be allowed, including:

- (a) — the use and maintenance of existing structures, including works designed to maintain or improve the stability and functionality of existing structures
- (b) — the removal of derelict, unlawful or non-functional structures
- (c) — the restoration or enhancement of natural habitats.⁵¹

Policy 6-32: Gravel extraction

- (a) — The annual volume of gravel available for extraction from those rivers and reaches with certain allocations, listed in Table 6.3, shall be limited to the quantities stated in the table.

⁴⁸ Policy 6-28 has been incorporated in part into Chapter 16 to become Policy 16-4.

⁴⁹ Policy 6-29 has been incorporated in part into Chapter 16 to become Policy 16-5.

⁵⁰ Policy 6-30 has been incorporated in part into Chapter 16 to become Policy 16-6.

⁵¹ Policy 6-31 has been incorporated in part into Chapter 16 to become Policy 16-7.



- (b) — The annual volume of gravel available for extraction from those rivers and reaches with estimated allocations, listed in Table 6.4, shall generally be limited to the quantities stated in the table, unless better information is available.
- (c) — In other rivers or reaches, where there is no annual extraction limit, gravel extraction shall not exceed the natural rate of replenishment except where extraction is necessary to decrease the risk of flooding or damage to structures.⁵²

Table 6.3 — Annual allocable volumes of gravel — certain allocations⁵³

River or Reach	Volume (m ³)
Lower Manawatu River	
• Manawatu Gorge to Karere Rd	10,000
• Karere Rd to Hamiltons Line	10,000
• Hamiltons Line to Oroua confluence (Yrs 2007-2009)	200,000
• Hamiltons Line to Oroua confluence (Yrs 2009 onwards)	20,000
Oroua River upstream of Boness Rd	5,000
Oroua River downstream of Boness Rd	50,000
Makino from confluence with Oroua River to the bend 800m upstream of Reids Line	3,000
Mangahao River confluence to Tararua Rd bridge	10,000
Mangatainoka River	55,000
South East Ruahine Streams	
• Mangapapa	2,000
• Mangaatua	5,000
• Raparapawai	15,000
• Oruakeretaki	15,000
• Otmarahu	1,000
• Kumeti	3,000
• Otamaraho	2,000
• Rokaiwhana	15,000
• Tamaki	30,000
• Mangatawaiiti	2,000
• Mangatowainui	6,000
• Mangatera	500
Upper Manawatu River	
• From 1km upstream of Ngawapurua bridge to source	20,000
• 1 km upstream to 2.5 km downstream of Ngawapurua bridge	no extraction
• 2.5 km downstream of Ngawapurua Bridge to Ballance bridge	15,000

Table 6.4 — Annual allocable volumes of gravel — estimated allocations⁵³

River or Reach	Volume (m ³)
Kawhatau River	35,000

⁵² Policy 6-32 has been incorporated in part into Chapter 16 to become Policy 16-8.

⁵³ Tables 6.4 and 6.4 have been merged and incorporated into Chapter 16 to become Table 16.1a.



River or Reach	Volume (m ³)
Makuriiti Stream	6,000
<u>Manganuioteao River</u>	
• <u>Waimarino River confluence to Whanganui River</u>	5,000
Mangatainoka River	55,000
Ohau River	
• Upstream of a point 1 km above SH 1 bridge	2,000
• Downstream of a point 1 km above SH 1 bridge	10,000
Pohangina River	30,000
Rangitikei River	
• Makahikatoa Stream to Mangarere Road bridge	15,000
• Mangarere Road bridge to Rewa	25,000
• Rewa to 7 km downstream of SH 1 bridge	40,000
• 7 km downstream of SH 1 bridge to mouth	100,000
Turakina River	3,000
Whangaehu River	8,000
Whanganui River	7,000
• Whakapapa Island to Pipiriki	4,000
• Pipiriki to mouth	2,750

6.5

Methods

The taking of surface water and groundwater, discharging to surface water and to land, and the undertaking of activities that disturb the beds of rivers or lakes, are largely regulatory activities. Part II: Regional Plan contains rules relating to the activities described in this chapter.

The primary method for performing Regional Council's statutory function and to implement this Plans objectives and policies is the use of rules to control:

- the taking of surface water or ground water
- discharges to surface water or land
- disturbances of beds of rivers and lakes
- land use activity.

Additional non regulatory methods are set out below.³

<u>Project Name Method 6-1⁵</u>	Large Water Abstractors
<u>Project⁵ Description</u>	<p>The aim of this <u>project method⁵</u> is to provide assistance to large water abstractors to identify options for improving the water abstraction, distribution and use components of their operations. It is expected this <u>project method⁵</u> will reduce the abstraction pressure on the groundwater and surface water resources, while providing abstractors with financial benefits and their business/customers with greater certainty of supply.</p> <p>The emphasis will be on working with large abstractors to identify and implement opportunities for increasing water use efficiency, reducing distribution network leakages, agreeing priority of use within distribution networks, and consideration of alternative water</p>



Project Name Method 6-1 ⁵	Large Water Abstractors
	supply and storage options.
Who	Horizons The Regional Council, Territorial Authorities District Councils ¹ , industry and large irrigators will work together to develop, fund and implement this programme.
Links to Policy	This project method links to implements Policies 6-12, 6-13 and 6-14. ³
Target	All major abstractors in the Region have been contacted and assistance provided where requested by 2016.

Project Name Method 6-2 ⁵	Sewage Treatment Plant Upgrades*
Project ⁵ Description	The aim of this project method ⁵ is to work with assist Territorial Authorities to seek central Government funding for sewage treatment plant upgrades*, given that the plants make they are a significant contributor of contribution to ² contaminants to waterways <i>bodies</i> ² during low flows. Horizons The ² Regional Council will work with Territorial Authorities to analyse their treatment and disposal options and to develop a package to present to Government with the aim of securing capital works funding to reduce the environmental impact of these discharges. An ongoing project. Horizons Regional Council extended an invitation to all Territorial Authorities to actively engage with the Regional Council as part of this project in 2006. ²
Who	Horizons Regional Council, Territorial Authorities district councils ² , Ministry of Health and ² local health agencies (e.g. MidCentral Health) and iwi authorities. ⁵⁴
Links to Policy	This method project links to implements Policies 6-2, 6-8, 6-10 and 6-11. ³
Targets ²	<ul style="list-style-type: none"> • Horizons Regional Council to extend an invitation in 2008 to all Territorial Authorities² to actively engage with the Regional Council on this matter, and² Central Government funding applications completed for upgrade* of sewage treatment plants as required.

Project Name Method 6-3 ⁵	On-site Wastewater System Forum
Project Description ⁵	The aim of this project method ⁵ is to facilitate implementation of the Regional Council's Manual for On-site Wastewater Systems – Design and Management. Horizons The ² Regional Council will establish a forum to aid understanding and implementation of the manual and will undertake regular reviews of new types of on-site treatment and disposal systems.
Who	The forum will comprise, as a minimum, representatives from the Regional Council, Territorial Authorities, consulting engineers and system installers.
Links to Policy	This project method links to implements Policies 6-2 and 6-69. ³
Target	Two meetings per year.

⁵⁴ WTR 61 – 180/37.

Project Name-Method 6-4 ⁵	Human Sewage Discharges to Water
Project Description ⁵	<p>The Regional Council will provide assistance to district councils <u>Territorial Authorities</u> to <i>upgrade</i>[*] existing sewage treatment systems that directly <i>discharge</i>[^] treated human sewage to the Region's <i>waterways bodies</i>[*].</p> <p>Horizons <u>The</u> Regional Council to work with <i>Territorial Authorities</i>[^] to reduce water volume, explore land-use disposal <u>treatment</u>⁵⁵ options and assist with funding opportunities.</p>
Who	Horizons <u>The</u> Regional Council and <u>Territorial Authorities and iwi authorities</u> . ⁵⁵
Links to Policy	This project method <u>links to</u> implements <u>Policyies 6-2 and 6-11 6-8</u> . ⁵
Target	To stop direct human sewage discharges to water by 2020.

Project Name-Method 6-5 ⁵	Stormwater System Discharge <i>Upgrades</i> [*]
Project Description ⁵	<p>The Regional Council will provide assistance to district councils <u>Territorial Authorities</u>⁵ wanting to <i>upgrade</i>[*] the treatment of their existing urban stormwater system discharges, where these are into <i>waterways bodies</i>[*].</p> <p>Horizons <u>The</u> Regional Council to will² work with <i>Territorial Authorities</i>[^] to reduce water volume, explore land-use disposal <u>treatment</u>² options and assist with funding opportunities.</p>
Who	Horizons <u>The</u> Regional Council and <u>Territorial Authorities and iwi authorities</u> . ⁵⁶
Links to Policy	This project method <u>links to</u> implements <u>Policyies 6-2 and 6-8</u> . ³
Target	To reduce the number, and improve the quality, of urban stormwater discharges by 2016.

Project Name-Method 6-6 ⁵	Trout and Native Fish Spawning Habitat ⁵⁷
Project Description ⁵	<p>The Regional Council and other agencies will work with landowners to protect and enhance <i>waterways bodies</i>^{*2} and parts of <i>waterways bodies</i>^{*2} that serve as spawning sites for brown and rainbow trout and native fish.⁵⁷ Resources will be directed towards the most significant <i>sites</i>[*].</p> <p><i>Waterways body</i>^{*2} owners will be provided with advice and financial/project management assistance to carry out enhancement and protection measures including fencing, planting, replacement of perched culverts <u>providing fish passage</u>² and pest (plant and pest animal) control. The Regional Council will seek funding from third parties to assist with this project method.</p> <p>The effectiveness of the protection and enhancement works will be monitored.</p> <p>The project method⁵ will include publicity to increase public awareness about the importance of trout <u>and native fish</u>.⁵⁷</p>

⁵⁵ WTR 63 – 180/38.

⁵⁶ WTR 64 – 180/39.

⁵⁷ WTR 65 – 374/13.



Project Name Method 6-6 ⁵	Trout and Native Fish Spawning Habitat ⁵⁷
Who	The Regional Council, Territorial Authorities, Fish and Game and funding agencies including He Tini Awa Trust, <u>Department of Conservation, landowners.</u> ²
Links to Policy	This project method links to implements Policies 6-2, 6-27 and 6-30. ³
Target	<u>Thirty</u> The top 30 of the top trout spawning habitat sites and <u>native fish habitat spawning sites</u> ⁵⁷ are actively managed, including protection and/or enhancement measures, within 10 years of this Plan becoming operative.

Project Name Method 6-7 ⁵	Water Quality Improvement
Project Description ⁵	<p>The Regional Council and other agencies will work with landowners to protect and enhance the water quality of the Region's <u>waterways bodies</u>.² Landowners in those <u>Water Management Sub-zones</u>.¹ where the nutrient management (non-point source discharge) control rules are to will² be introduced will receive the highest priority for assistance. This project represents an expansion of <u>Horizons' the Regional Council's</u>² existing water quality improvement programme, which focuses almost entirely on dairy farmers as part of the Dairying and Clean Streams Regional Action Plan for Manawatu-Wanganui Region.</p> <p><u>Waterways body</u>.² owners will be provided with advice and financial/project management assistance to carry out enhancement and protection measures including fencing and planting of riparian margins. The Regional Council will seek funding from third parties to assist with this project method.⁵</p> <p>The effectiveness of the protection and enhancement works will be monitored.</p>
Who	The Regional Council, Excel DairyNZ , ² Fonterra and Territorial Authorities and funding agencies including the He Tini Awa Trust and Nga Whenua Rahui.
Links to Policy	This project method links to implements Policies 6-2, 6-4 and 6-7. ³
Targets	<p>The targets of the Dairying and Clean Streams Regional Action Plan for Manawatu-Wanganui Region are achieved by the due dates.</p> <p>Advice and assistance is offered to all landowners affected by the nutrient management (non-point source discharge) control rules.</p> <p>All landowner requests for advice and assistance regarding water quality improvement are responded to promptly.</p>

Project Name Method 6-8 ⁵	Education in Schools – Water
Project Description ⁵	The aim of this project method ⁵ is to raise awareness amongst the youth of the Region of the significance of our the ² water (quantity and quality) resource, the threats to it, and what they can do to protect/restore it. This will be achieved through various environmental education programmes/initiatives – for example, Green RIG, Enviroschools and Trees for Survival.
Who	Horizons The Regional Council and various national and local

Project Name Method 6-8⁵	Education in Schools – Water
	environmental education providers <u>and the Youth Environment Forum</u> . ⁵⁸
Links to Policy	This <u>project method links to implements</u> Policy 6-12. ³
Targets	The Regional Council develops and delivers a water related environmental education programme.

Project Name Method 6-9⁵	Water (Fluvial Resources, Quality and Quantity) Research, Monitoring and Reporting
Project Description⁵	The aim of this <u>project method⁵</u> is to develop an integrated research, monitoring and reporting programme. that The focus of this project will be to <u>define the current state of the natural character of the Region's rivers by analysing the habitat and morphological diversity.</u> This may include: <u>planform/ channel morphology classification; fairway width; sinuosity; barforms; percentage of pool, riffle, run, habitat; gravel resources, level of entrenchment, and location and extent of riparian and wetland areas.</u> The method will also seek to <u>measure departure from natural state and changes in natural character, including habitat and morphological diversity.</u> The <u>outcomes will link into monitoring undertaken by the River Works Environmental Code of Practice and supports delivery and refinement of existing policies, objectives and methods.</u> The <u>outcomes will also guides implementation planning and allows implementation effectiveness to be assessed.</u> ⁵⁹
Who	Predominantly <u>the Horizons Regional Council</u> , with assistance from research institutes, universities and , non-Government agencies and , Fish and Game, community groups <u>and iwi authorities</u> as required. ⁶⁰
Links to Policy	This <u>project method links to implements</u> Policies 6-32, 6-4, 6-5, 6-15, 6-17, 6-27, 6-32 <u>and 7-8.</u> ³
Targets	A research, monitoring and reporting programme that supports delivery and refinement of existing policies and methods and guides and assesses implementation that defines the current state of rivers and departure from or degradation to natural state, including habitat and morphological diversity. ⁵⁹

6.6 Anticipated Environmental Results

Anticipated Environmental Result	Link to Policy	Indicator	Data Source
<p>During the life of this Plan, water quality and quantity maintain <u>achieve or exceed</u> at the values set in this Plan.</p> <p>In <u>Water Management Sub-zones</u>:¹</p> <ul style="list-style-type: none"> where water quality standards are met prior to this Plan² becoming operative, they continue to be met where water quality standards are 	<p>Water Policies:</p> <p>6-1, 6-2, 6-3, 6-4, 6-5, 6-7, 6-8, 6-9, 6-10, 6-11, 6-12, 6-13, 6-14, 6-15, 6-16, 6-18, 6-20, 6-21, 6-25, 6-27, 6-29, 6-30, 6-31, 6-32³</p>	<ul style="list-style-type: none"> Measured water quality compared to <u>Water Management Sub-zone</u>^{x1} standards, especially measures for "muddy waterways bodies^{*n3}", "safe swimming", "safe food gathering", and "aquatic ecosystem health" in priority 	<ul style="list-style-type: none"> <u>The Regional Council's Horizons' Sstate</u>² of <u>Environment water quality monitoring programme</u> <u>The Regional Council's</u>

⁵⁸ WTR 67 – 176/18.

⁵⁹ WTR 155 – 417/89.

⁶⁰ WTR 68 – 180/41.

⁶¹ WTR 69 – 460/59.



Anticipated Environmental Result	Link to Policy	Indicator	Data Source
not met prior to this Plan ² becoming operative, they are either met where specified targeted ² for action or, where not specified targeted ² for action, they are no worse than prior to this Plan ² becoming operative.	Land Policies: 5-1, 5-2, 5-3, 5-4 and 5-5 Living Heritage Policies: 7-1, 7-2, 7-3, 7-4, 7-5 and 7.8	catchments <ul style="list-style-type: none"> Incidents where surface water quality is confirmed as unfit for use Surface Water quantity and flows of surface water⁶² are managed in accordance with the allocation and minimum flow regime outlined in this Plan.⁶² 	Horizons' ² incidents database <ul style="list-style-type: none"> Ministry of Health raw water monitoring
By 2017, the natural, physical and cultural qualities of the beds and banks of river management zones are suitable for specified <u>Water Management Sub-zone</u> ^{*1} values at all times.	Water Policies: 6-1 and 6-27, ⁶¹ 6-29, 6-30, 6-31, 6-32	<ul style="list-style-type: none"> Confirmed incidents of damage to the beds and banks of rivers management zones¹ Consents granted for activities in beds of rivers and lakes beds² 	<ul style="list-style-type: none"> The Regional Council's Horizons'² incidents database The Regional Council's Horizons'² consents database
By 2017, the amount of groundwater used does not exceed replenishment rates and its quality is the same as or better than that measured prior to this Plan ² becoming operative.	Water Policies: 6-6, 6-9, 6-12, 6-13, 6-21, 6-22, 6-23, 6-24 and 6-21 ⁶³	<ul style="list-style-type: none"> Groundwater levels Region-wide,² but with a focus on Opiki and Himatangi areas Groundwater quality Region-wide,² but with a focus on nitrates in Horowhenua and Tararua districts and conductivity along the Foxton-Tangimoana coast Confirmed incidents where groundwater sources become unavailable (i.e., dry up) or water quality is unfit for use 	<ul style="list-style-type: none"> The Regional Council's Horizons' State² of Environment groundwater monitoring programme The Regional Council's Horizons'² compliance monitoring programme The Regional Council's Horizons'² incidents database Ministry of Health raw water monitoring

6.7

Explanations and Principal Reasons

The Horizons² Region has been divided into Water Management Sub-zones^{*} for the purpose of managing water quality and quantity. Water bodies^{*} within these Water Management Sub-zones^{*1} have been assigned values which represent the ecosystemic, recreational, cultural and social and economic values dimensions of the water body's^{*} qualities⁶² (Objective 6-1, Policy 6-1). Standards have been assigned to protect these values (Policies 6-2 to 6-5). The standards specified in Schedule D of Part II – the Regional Plan are not standards in terms of section 69 of the RMA.³

⁶² Consequential change to reflect recommended changes to wording of the plan.

Discharges to water or land

The water chapter deals with discharges to land and water holistically. This is because discharges to land have the potential to adversely affect groundwater or² surface water quality if not managed well. ~~Three~~ ~~Four~~² types of discharges of concern have been identified: point source discharges to land (including *domestic wastewater*^{*}), point source discharges to water (including industrial discharges and treated sewage) and non-point source discharges to land (from agricultural land uses). All these types of discharges will be managed to meet the objectives and policies for water quality (Objective 6-1, 6-2, Policies 6-2 to 6-5), including discharges to land (~~6-9~~).³

Agricultural land uses contribute to ~~our~~ ~~waterways~~ *bodies*^{*3} not meeting ~~our~~ ~~the~~ ~~Region's~~² standards for nutrients, faecal contamination and sediment levels. These need to be ~~specified~~ ~~targeted~~³ for control in problem catchments and through ~~our~~ ~~the~~ ~~Regional~~ ~~Council's~~² Sustainable Land Use Initiative (SLUI)² (Policy 6-7). Control will centre around using best practice management techniques and requiring nutrient management plans.

Point source discharges to water need to be managed to achieve water quality standards (~~Policy 6-8~~). ~~Sometimes this may~~ This will often² mean that it is appropriate to consider alternatives to discharging to water² to meet these water quality standards. This may include considering alternative treatment options for all or part of the year, to achieve water quality standards at critical times of the year (Policy ~~6-8~~ ~~6-10~~²). In all cases, point source discharges to water of untreated human sewage are culturally unacceptable, and direct discharges of treated human sewage should be changed to involve land treatment before discharge (~~Policy 6-11~~).²

Surface Water Quantity

Water will be used and allocated in a way ~~which that~~² enables water to be used for the ~~well-being of~~² peoples and ~~the~~² community ~~wellbeing~~², while ~~providing for~~ ~~ensuring~~² other values to be ~~are~~² maintained (Objective 6-3, Policy 6-15). Water allocation limits are set for each ~~W~~~~water~~ ~~M~~~~management~~ ~~Sub-zone~~^{*1} and water will be managed to maintain these limits (Policies ~~6-16, 6-17, and 6-20~~).² When water use needs to be restricted, life sustaining and essential water takes have first priority (~~Policy 6-19~~).² Water harvesting and alternative sources of water to surface water are also encouraged and provided for (~~Policies 6-18 and 6-18~~ Policy 6-15).² Efficiency of use is an important consideration, and will ensure that water is available to the maximum number of users and is not wasted (~~Policies~~ ~~Policy 6-12 and 6-13~~).²

Groundwater

Groundwater quality and quantity is connected to that of surface water and ~~this~~ ~~that~~² is recognised in this chapter, while providing for its management separately. ~~Bores~~^{*} will be managed to ensure that they are ~~of good quality~~ ~~properly~~ ~~constructed~~³ and do not lead to contamination of groundwater, wastage of water or unnecessary effects on other ~~bores~~^{*} or surface ~~water~~ ~~bodies~~^{*} (~~Policies 6-22, 6-24, and 6-25~~).² ~~Groundwater management zones~~^{*} have been established and sustainable allocations set, ~~and~~² groundwater takes will be managed within these allocations (~~6-23~~ ~~Policy 6-21~~).² Groundwater quality within the Region is good and is not declining, but maintaining this good quality will be a consideration when managing discharges (Policy ~~6-89~~).²

Beds of Rivers and Lakes

The physical nature of ~~our~~ ~~the~~ ~~Region's~~ ~~water~~ ~~bodies~~^{*} ~~rivers~~ ~~and~~ ~~lakes~~³ is important to maintaining the values assigned to them. Management of activities in the beds of rivers and lakes will be undertaken in order to maintain these values, and other important physical attributes (~~Objective 6-27, Policy 6-34~~).² Some values are treated differently. Important aquatic biodiversity sites, cultural sites and natural state areas would be negatively and potentially permanently harmed



by some activities and consequently are given a high level of protection (~~Policy 6-28~~).² Flood control and drainage schemes have damaged water values in some areas, but also provide valuable protection services to the community. Maintaining this level of service is important, while ensuring that other values are not further compromised (~~Policy 6-29~~).² While recognising the values, we acknowledgement is also needed⁶³ that some activities, such as river restoration, are beneficial and should be allowed to occur (~~Policy 6-31~~).²

Gravel extraction is an important activity in the beds of rivers ~~beds~~² both, for the benefit the gravel resource provides, and the flood protection benefit of having it removed from the river. However, if not well managed, too much extraction, or extraction in an inappropriate manner can damage ~~our~~² river values. Gravel extraction needs to be managed to ensure that extraction volumes are sustainable (~~Policy 6-32~~ 6-27).²

⁶³ Consequential change – WTR 15 – 279/3.