HAWKE'S BAY
REGIONAL COUNCIL

Plan Change 6 to Hawke's Bay Regional Resource Management Plan

Tukituki River Catchment

Operative – 1 October 2015

HBRC Report No. SD 15-08 – 4767

Strategic Development Group

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Adopted by Hawke's Bay Regional Council on 26 August 2015

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HAWKE'S BAY REGIONAL RESOURCE MANAGEMENT PLAN

Change 6 ('Tukituki River Catchment')

It is hereby certified that Change 6 ('Tukituki River Catchment) to the Hawke's Bay Regional Resource Management Plan was adopted by the Hawke's Bay Regional Council on 26th August 2015.

Dated this 21st day of September 2015.

Signed under the Seal of the
Hawke's Bay Regional Council
In the presence of:

Fenton Wilson
CHAIRMAN

Elizabeth Lambert
INTERIM CHIEF EXECUTIVE

THE HAWKES BAY REGIONAL COUNCIL
The Common Seal of

Seal Number: 3703

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5.9 TUKITUKI RIVER CATCHMENT

5.9.1 Fresh Water Objectives

OBJ TT1 To sustainably manage the use and development of land, the discharge of contaminants including nutrients, and the taking, using, damming, or diverting of fresh water in the Tukituki River catchment so that:

(a) Groundwater levels, river flows, lake and wetland levels and water quality maintain or enhance the habitat and health of aquatic ecosystems, macroinvertebrates, native fish and trout;

(b) Water quality enables safe contact recreation and food gathering;

(ba) Water quality and quantity enables safe and reliable human drinking water supplies;

(c) The frequency and duration of excessive periphyton growths[1] that adversely affect recreational and cultural uses and amenity are reduced;

(d) The significant values of wetlands are protected;

(e) The mauri of surface water bodies and groundwater is recognised and adverse effects on aspects of water quality and quantity that contribute to healthy mauri are avoided, remedied or mitigated; and

(f) The taking and use of water for primary production and the processing of beverages, food and fibre is provided for.

OBJ TT2 Where the quality of fresh water has been degraded by human activities to such an extent that Objective TT1 is not being achieved, water quality shall not be allowed to degrade further and it shall be improved progressively over time so that OBJ TT1 is achieved by 2030.

OBJ TT4 To manage the abstraction of surface water and groundwater within a minimum flow regime and allocation limits that achieve OBJ TT1 while recognising that existing takes support significant investment.

OBJ TT4A To recognise that industry good practice for land and water management can assist with achieving Objectives TT1, TT2 and TT4.

OBJ TT5 Subject to Objectives TT1, TT2 and TT4, to enable the development of on-farm storage and Community Irrigation Schemes[2] that improve and maximise the efficient allocation and efficient use of water.

[1] Growths that exceed the periphyton limits and targets set in Table 5.9.1B.

[2] The term Community Irrigation Scheme as used in chapter 5.9 of the RRMP is defined in the Glossary.

5.9.2 Water Quality Policies

POL TT1 SURFACE WATER QUALITY LIMITS, TARGETS AND STATE INDICATORS

1. In surface water bodies[3] in Water Management Zones 1, 2, 3 and 5 Hawke's Bay Regional Council will (in Table 5.9.1B):

   (a) Set instream water quality concentration limits and targets[4] for dissolved inorganic nitrogen (DIN) to provide for maintenance or enhancement of the habitat and health of aquatic ecosystems, macroinvertebrates, native fish and trout (with the targets to be met by 1 July 2030);

   (b) Set instream water quality concentration limits and targets[4] for nitrate-nitrogen (NO_3-N) to protect aquatic fauna from toxicity effects (with the targets to be met by 1 July 2030);

   (c) Set instream water quality concentration limits and targets4 for dissolved reactive phosphorus (DRP) and instream targets for periphyton biomass and cover (with the targets to be met by 1 July 2030).

2. In surface water bodies in Water Management Zone 4 Hawke's Bay Regional Council will (in Table 5.9.1B) set dissolved inorganic nitrogen and dissolved reactive phosphorus limits that reflect existing[5] instream water quality concentrations in recognition that the existing level of periphyton biomass and cover is currently acceptable and it should not be permitted to increase due to that Zone's existing high biodiversity values.

3. In surface water bodies[6] in all Water Management Zones Hawke's Bay Regional Council will:

   (a) Set (in Tables 5.9.1A) instream water quality limits/targets for Temperature, Dissolved Oxygen, *Escherichia coli* (*E. coli*), Total Ammoniacal Nitrogen and Other Toxicants;

   (b) Set (in Table 5.9.1B and C) environmental state indicators[7] for the Macroinvertebrate Community Index (MCI), Visual Water Clarity and Deposited Sediment.

4. Manage point source discharges and the use of production land upstream of any registered drinking water supply takes to ensure compliance with the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 and the Drinking-Water Standards for New Zealand (2005 Revised edition 2008).

POL TT2 GROUNDWATER QUALITY LIMITS

1. For groundwater Hawke's Bay Regional Council will:

   (a) Manage the adverse effects of activities likely to affect the quality of groundwater located 10m or more below ground level in accordance with the limits for aesthetic, organic and inorganic determinands; *Escherichia coli* and nitrate-nitrogen set in Table 5.9.2;

   (b) Set (in Table 5.9.2) an environmental state indicator for the annual average concentration of nitrate-nitrogen;

   (c) Manage activities likely to affect the quality of groundwater connected to and affecting surface water quality having regard to effects on the achievement of the limits and targets set in Tables 5.9.1A and 5.9.1B;

   (d) Manage point source discharges and the use of production land upstream of any registered drinking water supply takes to ensure compliance with the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 and the Drinking-Water Standards for New Zealand (2005 Revised edition 2008).

2. The implementation of POL TT2(1) shall take into account uncertainties associated with variables such as the location of the activity, the spatial and temporal nature of groundwater flows, seasonal variations in groundwater levels, and the effects of historical production land use activities on existing and future groundwater quality.

POL TT3 RECEIVING ENVIRONMENT LIMITS FOR POINT SOURCE DISCHARGES

1. In surface water bodies[8] in all Water Management Zones Hawke's Bay Regional Council will manage point source discharges so that after reasonable mixing, contaminants discharged (either by themselves or in combination with the same, similar, or other contaminants) do not cause:

   (a) the Table 5.9.1A and 5.9.1B limits to be exceeded; or

   (b) the following receiving environment limits to be exceeded at any time all year round:

[3] Excluding Lake Hatuma.

[4] "Limits" apply where the existing water quality is better than the desired numerical value and "targets" apply where the existing water quality is worse than the desired numerical value.

[5] "Existing" is defined in the Glossary.

[6] Excluding Lake Hatuma.

[7] "Indicators" define what the state of certain water quality parameters should be in order to safeguard the life supporting capacity of the water body but they are not "limits" or "targets". The "indicators" stated will be used by Hawke's Bay Regional Council to monitor the effectiveness of the RRMP in achieving the purpose of the RMA in the Tukituki River catchment. The monitoring data collected on the indicators will also inform decision-makers on consent applications about the state of the background environment against which applications should be assessed.

[8] Excluding Lake Hatuma.

(i) The percentage reduction to the Quantitative Macroinvertebrate Community Index (QMCI) score relative to the QMCI upstream of the discharge should not exceed 20% at all flows;

(ii) The average of the five days filtered / soluble carbonaceous biochemical oxygen demand ($ScBOD_5$) shall not exceed 2 mg/L at flows less than the median flow;

(iii) The average particulate organic matter (POM) shall not exceed 5 mg/L at flows less than the median flow;

(iv) The concentration of Total Ammoniacal Nitrogen (TNH_3-N) shall not exceed the acute limits tabulated in Schedule XXIII at all flows (to avoid acute toxicity effects);

(v) The percentage reduction to the water clarity relative to the water clarity upstream of the discharge should not exceed:

1. 20% at flows less than the median flow in all rivers in Water Management Zone 4;

2. 20% at flows less than the median flow in the mainstem of the Tukituki River in Water Management Zones 1 and 3 and the mainstem of the Waipawa River and the Mangaonuku Stream in Water Management Zone 2;

3. 30% at flows less than the median flow in all other rivers in the Tukituki catchment.

2. The implementation of POL TT3(1) shall take into account:

(a) measurement uncertainties associated with variables such as location, flows, seasonal variation and climatic events;

(b) in relation to discharges, the degree to which a discharge is of a temporary nature, or is associated with necessary maintenance work.

POL TT3A MANAGING EXISTING COMMUNITY WASTEWATER DISCHARGES

1. Existing community wastewater discharges to surface water are provided for on the basis of best practicable option treatment over time.

POL TT4 IMPLEMENTING THE NITROGEN LIMITS AND TARGETS

1. To ensure that the Table 5.9.1B nitrate-nitrogen and dissolved inorganic nitrogen surface water quality limits and the Table 5.9.1D Tukituki LUC Natural Capital Leaching Rates are not exceeded on a whole of farm property or whole of farming enterprise basis:

(a) From 1 June 2013 onwards farm properties or farming enterprises exceeding 4 hectares in area shall be required to either:

(i) Keep the records specified in Schedule XXI so that Nutrient Budgets can be calculated using Overseer[9] (or an alternative model approved by Hawke's Bay Regional Council[10]) prior to 31 May 2018; or

(ii) Keep copies of Nutrient Budget input and output files that have been prepared in accordance with an industry programme approved by Hawke's Bay Regional Council;

Except that for low intensity farming systems the property size threshold shall be 10 hectares. This exception is to recognise that low intensity farming systems have low nitrogen losses. The farming systems included in this category may be further developed and included in the Regional Resource Management Plan via a plan change prior 31 May 2018.

(b) By 1 June 2018 farm properties or farming enterprises exceeding 4 hectares in area shall prepare and maintain a Farm Environmental Management Plan prepared in accordance with Schedule XXII. The Farm Environmental Management Plan (FEMP) should be in proportion to the complexity or intensity of the particular farming operation. The FEMP shall be updated at three yearly intervals from 1 June 2018.

Except that for low intensity farming systems the property size threshold shall be 10 hectares. This exception is to recognise that low intensity farming systems have low nitrogen losses. The farming systems included in this category may be further developed and included in the Regional Resource Management Plan via a plan change prior 31 May 2018.

(c) Require industry good practices to be implemented on farm properties or farming enterprises in order to minimise nitrogen losses;

(d) Until 31 May 2018 the managers of farm properties and farming enterprises shall be required to measure or model nitrogen leaching rates to support the preparation of Nutrient Budgets[11] to be included in a Farm Environmental Management Plan. The Nutrient Budgets must be updated thereafter at least 3 yearly. The initial Nutrient Budget must be provided to Hawke's Bay Regional Council while the three yearly updates need only be provided to the Council upon written request.

(e) Require that the records kept in accordance with POL TT4(1)(a), (b) and (d) are to be reviewed annually in accordance with an industry programme approved by Hawke's Bay Regional Council (or in the absence of an industry programme, as directed by Hawke's Bay Regional Council) to assess whether any farm system changes are evident in the previous 12 months. If such a change is evident, the Nutrient Budget for the farm system must be updated to determine whether the nitrogen leached from the land exceeds

[9] Overseer is a Nutrient Budget model that calculates and estimates the nutrient flows in a productive farming system. It is owned and administered by the Ministry of Primary Industry, Fertiliser Association of New Zealand and AgResearch. The Overseer model is available at http://www.overseer.org.nz/Home.aspx. The application of Overseer or an alternative model is set out in the procedural guideline to be developed by HBRC.

[10] To be approved by Hawke's Bay Regional Council any alternative nitrogen loss model would need to be fit for purpose for the production land use, have a demonstrable repeatability of results, be field tested, and be validated to accepted scientific standards.

[11] A Nutrient Budget is defined in the Glossary.

the relevant limit in Table 5.9.1D on a whole of farm property or whole of farming enterprise basis and the updated Nutrient Budget must be provided to the Hawkes Bay Regional Council.

(f) Allow until 31 May 2020 farm properties or farming enterprises to implement any necessary changes to their farming systems to achieve the Table 5.9.1D Tukituki LUC Natural Capital Nitrogen Leaching Rates on a whole of farm property or whole of farming enterprise basis.

(g) Require the use of production land[12] on properties greater than 4 hectares in area in those Tukituki River sub-catchments where there are exceedances of Table 5.9.1B (surface water) or Table 5.9.2 (groundwater) nitrate-nitrogen or dissolved inorganic nitrogen limits and targets[13] to be subject to a land use consent under Rule TT2 or Rule TT2A if the targets are still exceeded or become exceeded after 1 June 2020 unless the farm property or farming enterprise is a low intensity farming system or solely comprises plantation forestry;

(h) By 31 May 2018 HBRC will develop a Procedural Guideline in collaboration with primary sector representatives to aid in the implementation of POL TT4. The Guideline will include, but not be limited to: the methodology for estimating a Nutrient Budget using Overseer (or an alternative model approved by Hawke's Bay Regional Council), the process for monitoring water quality trends and alerting affected farming properties if water quality limits are being approached; delineation of the 'capture zone' for the relevant water body (the area of groundwater or surface water contributing to the particular part of the water body in question); and, where Rule TT2 is triggered, an adaptive management process for reducing nitrogen leaching from affected farming properties based on the implementation of progressively more stringent on-farm management practices.

(i) After 1 June 2020 manage activities with leaching rates that exceed those specified in Table 5.9.1.D through a resource consent process under Rule TT2 where such exceedance is 30% or less or Rule TT2A where leaching rates in Table 5.9.1D are exceeded by more than 30%.

(j) For the purposes of achieving compliance with Table 5.9.1D, the estimated leaching rate shall be a 4 year rolling average of the estimated nitrogen leaching rates derived from Nutrients Budgets prepared after 1 June 2013.

2. To assist with monitoring the effectiveness of POL TT4(1) the Hawke's Bay Regional Council will:

(a) Monitor instream water quality at existing State of the Environment monitoring sites to assess compliance with Table 5.9.1B dissolved inorganic nitrogen (DIN) and nitrate-nitrogen limits and targets; and

(b) Incorporate that information in its regular state of the environment reporting and report on it annually.

POL TT5 IMPLEMENTING THE PHOSPHORUS LIMITS AND TARGETS

1. To ensure that the Table 5.9.1B dissolved reactive phosphorus (DRP) surface water quality limits are not exceeded and to attain the Table 5.9.1B DRP targets[14] by 1 July 2030 Hawke's Bay Regional Council will:

(a) From 1 June 2018 onwards, require farm properties or farming enterprises exceeding 4 hectares in area to prepare and maintain a Phosphorus Management Plan as part of a Farm Environmental Management Plan prepared in accordance with Schedule XXII.

Except that for low intensity farming systems the property size threshold shall be 10 hectares. This exception is to recognise that low intensity farming systems have low phosphorus losses. The farming systems included in this category may be further developed and included in the Regional Resource Management Plan via a plan change prior 31 May 2018.

(b) In areas where the Table 5.9.1B DRP targets are exceeded[15]:

(i) Ensure existing point source discharges do not contribute any additional phosphorus load to the Tukituki River or its tributaries and through consent review and renewal processes seek to reduce existing loads where necessary to progress towards phasing out the exceedance;

(ii) Ensure any new point source discharges will not increase existing DRP concentrations in the Tukituki River or its tributaries after reasonable mixing;

(c) In areas where the Table 5.9.1B DRP limits are not exceeded, ensure that any new point source discharges will not cause those limits to be exceeded in the Tukituki River or its tributaries after reasonable mixing;

(d) Require any application for a resource consent for the use of production land on farm properties or farming enterprises to demonstrate:

(i) In areas where the Table 5.9.1B DRP limits are not exceeded that the proposed activity will not lead to an exceedance of the limits in the Tukituki River or its tributaries;

(ii) In areas where the Table 5.9.1B DRP targets are exceeded that the proposed activity will not increase existing DRP concentrations in the Tukituki River or its tributaries and that all reasonable and practicable opportunities have been taken to reduce[16] phosphorus losses from the farm property;

[12] POL TT4(1)(g) does not apply to discharges of industrial and trade wastewater to land. Those activities are managed under POLs 16 and 17 and Rules 49 and 52 of the RRMP.

[13] At the time of Plan Change notification, based on two discrete sampling exercises, there were localised exceedances in the Kahahakuri and Mangapohio tributaries.

[14] The numerical values in Tables 5.9.1A and 5.9.1B are to be treated as "limits" at locations where the existing water quality is better than the relevant numerical value and as "targets" at locations where the existing water quality is worse than the relevant numerical value. At the time of Plan Change notification, only the Waipawa River and Tukituki River catchments upstream of SH50 and the Makaretu River were complying with the limits.

[15] POL TT5(1)(a) also applies to discharges of industrial or trade wastewater to land with such discharges being regulated under Rule 52 of the RRMP.

[16] Relative to the losses that were occurring from the farm property prior to the land use change that triggered the need for a Rule TT2 land use resource consent.

(iii) The likely achievement of (i) and (ii) through the preparation of a Phosphorus Management Plan.

(e) Recognise that significant parts of the Tukituki River catchment are generally in a state of over-allocation with respect to instream DRP limits and therefore through the implementation of land use rules:

(i) On land that is less than 15 degrees in slope, require livestock (other than sheep) to be excluded from lakes, wetlands and flowing rivers (whether they are intermittent or permanent) and their margins by 31 May 2020;

(ii) On land that is greater than 15 degrees in slope and where the stocking rate of livestock excluding sheep exceeds 18 stock units per hectare, either:

1. require livestock (other than sheep) to be excluded from lakes, wetlands and flowing rivers (whether they are intermittent or permanent) and their margins by 31 May 2020; or

2. other than the Papanui, Porangahau, Maharakeke, Tukipo, Kahahakuri and upper Tukituki corridor catchments shown in Schedule XIVc, if livestock exclusion is not reasonably practicable a Phosphorus Management Plan prepared as part of the Farm Environmental Management Plan that includes all reasonably practical stock exclusion requirements and other mitigation of phosphorus loss must be prepared and provided to the Hawkes Bay Regional Council by 31 May 2018 and thereafter be implemented by 31 May 2020.

(iii) Within the Papanui, Porangahau, Maharakeke, Tukipo, Kahahakuri and upper Tukituki corridor catchments (as shown in Schedule XIVc) POL TT5(1)(e)(ii)(1) must be complied with.

(iv) Require formed stock races crossing rivers and streams (excluding managed stock crossings) to be bridged or culverted by 31 May 2020;

(f) Provide land advisory services and incentives, in collaboration with the primary industry sector and the community, prioritising efforts on tributary catchments which significantly exceed the DRP targets. In particular Hawke's Bay Regional Council will:

(i) Develop a catchment strategy and implementation plan to identify critical source areas for phosphorus and eliminate or reduce phosphorus losses;

(ii) Encourage industry good practices to be implemented on farm properties or farming enterprises in order to reduce phosphorus losses;

(iii) Encourage riparian planting in conjunction with permanent stock exclusion fencing;

(iv) In the Water Management Zone 5 (Papanui), encourage riparian planting which provides shading for rivers and streams in order to reduce macrophyte growth and improve life-supporting capacity of the stream;

(v) Encourage surface runoff from stock races, stock yards, bridges and culverts to be diverted away from rivers and streams and discharged to land.

2. To assist with monitoring the effectiveness of POL TT5(1) the Hawke's Bay Regional Council will:

(a) Monitor instream water quality at existing State of the Environment monitoring sites to assess compliance with the Table 5.9.1B DRP limits and targets; and

(b) Incorporate that information in its regular state of the environment reporting;

(c) In 2025, review the need for an increased regulatory approach taking into account whether:

(i) Instream DRP concentration trends indicate that the Table 5.9.1B DRP targets are likely to be met;

(ii) Monitoring indicates that the Table 5.9.1B periphyton limit and targets are likely to be met; and

(iii) The indicators set out in the Monitoring, Evaluation, Reporting and Improvement Plan[17] are being met.

POL TT6 DECISION-MAKING CRITERIA – USE OF PRODUCTION LAND

Land not associated with the Operation of a Community Irrigation Scheme

1. When considering an application for a land use consent to authorise the use of production land on farm properties or farming enterprises not associated with the operation of a Community Irrigation Scheme, the consent authority must have regard to the following matters:

(a) The extent to which the use, in combination with other permitted or consented activities, will result in the nitrate-nitrogen and dissolved inorganic nitrogen limits in Table 5.9.1B being approached or exceeded;

(b) The extent to which the Tukituki LUC Natural Capital Nitrogen Leaching Rates specified in Table 5.9.1D are exceeded on a whole of farm property or whole of farming enterprise basis;

(c) Whether the applicant has supplied a Farm Environmental Management Plan prepared in accordance with Schedule XXII which:

[17] The Monitoring Evaluation, Reporting and Improvement Plan (MERI) is one of the key programmes of the Tukituki Catchment Implementation Plan which outlines how the non-regulatory approaches in Change 6 will be implemented.

(i) Adequately describes the farm property or farming enterprise (including soils, climate, topography and environmental risks) and the proposed production land use on the farm property or farming enterprise;

(ii) Contains a Nutrient Budget for the farm property or farming enterprise;

(iii) Contains a Phosphorus Management Plan for the farm property or farming enterprise;

(iv) Describes how industry good practices will be implemented to minimise nutrient (nitrogen and phosphorus) losses, sediment losses and faecal bacteria discharges from the farm property or farming enterprise appropriate to the production land use and land type;

(v) Where the farm property or farming enterprise is in Water Management Zone 5, ensures appropriate riparian management measures are implemented to minimise nutrient losses and reduce macrophyte growth in order to improve the life-supporting capacity of the river or stream.

(d) Whether conditions on the land use consent will ensure that the Farm Environmental Management Plan supplied under (c) is maintained, submitted to Hawke's Bay Regional Council as may be required by the Council, and implemented by the farm property or farming enterprise owner;

(e) Imposing a three year lapse period in order to discourage speculative land use intensification applications.

(f) Phasing out of existing over-allocation.

Land Associated with the Operation of a Community Irrigation Scheme

2. When considering an application for a land use consent to authorise use of production land on multiple farm properties or farming enterprises taking water from a Community Irrigation Scheme, the consent authority must have regard to the extent to which management plan and/or contractual mechanisms governing the Scheme's operation ensure that:

(a) In each respective Water Management Zone, the farm properties or farming enterprises serviced by the Scheme will not collectively leach an amount of nitrogen that, in combination with nitrogen leached from non-Scheme farm properties or farming enterprises as a result of production land use activities permitted by this Plan or authorised by consents already granted, cause the nitrate-nitrogen and dissolved inorganic nitrogen limits in Table 5.9.1B to be exceeded;

(b) Where the farm property or farming enterprise is in Water Management Zone 5, appropriate riparian management and wetland enhancement measures are implemented to minimise nutrient losses and reduce macrophyte growth in order to improve the life-supporting capacity of the river or stream;

(c) In each respective Water Management Zone, the farm properties or farming enterprise serviced by the Scheme will collectively:

(i) In Water Management Zones where the Table 5.9.1B DRP concentration targets are exceeded, not cause DRP concentrations in the Tukituki River or its tributaries to increase compared with a baseline measured or modelled at the time of any resource consent application and ensure that all reasonable and practicable opportunities have been taken to reduce phosphorus losses;

(ii) In Water Management Zones where the Table 5.9.1B DRP concentration limits are not exceeded, not cause those limits to be exceeded;

(d) Any farm property or farming enterprise serviced by the Scheme prepares and maintains a Farm Environmental Management Plan prepared in accordance with Schedule XXII which:

(i) Adequately describes the farm property or farming enterprise (including soils, climate, topography and environmental risks) and the proposed production land use on the farm property or farming enterprise;

(ii) Contains a Nutrient Budget for the farm property or farming enterprise;

(iii) Contains a Phosphorus Management Plan for the farm property or farming enterprise;

(iv) Describes how industry good practices will be implemented to minimise nutrient (nitrogen and phosphorus) losses, sediment losses and faecal bacteria discharges from the farm property or farming enterprise appropriate to the production land use and land type;

(e) Any farm property or farming enterprise serviced by the Scheme is operated in accordance with its Farm Environmental Management Plan;

(f) Scheme-wide nutrient loss compliance modelling, auditing and enforcement procedures are implemented for nitrogen and phosphorus.

Land Use Consent Duration

3 From 4 May 2013 any land use consents granted under Rule TT2 or Rule TT2A to the landowner or occupier shall:

(a) have the same expiry date as any section 14 water take irrigation consents for the land, or

(b) if there are no irrigation consents for the land then the maximum duration imposed shall not exceed 35 years.

Table 5.9.1A: Surface Water Quality Limits and Targets[18] for the Tukituki River Catchment – Catchment Wide

Parameter	Limit or Target
Temperature	The temperature of the water shall be suitable for sustaining the aquatic habitat.
Dissolved Oxygen	The concentration of dissolved oxygen shall exceed 80% of the saturation concentration except in areas of groundwater upwelling including the Porangahau, Maharakeke, Kahahakuri, Mangaonuku, Papanui sub-catchments.
E. coli	260 *Escherichia coli* per 100 millilitres for the 1 November to 30 April bathing season (for flows below the median flow). 550 *Escherichia coli* per 100 millilitres for the 1 November to 30 April bathing season (for flows between the median flow and three times the median flow). 550 *Escherichia coli* per 100 millilitres for the rest of the year (for flows below three times the median flow). The methodology for compliance is a maximum 95th percentile calculated as a minimum of 20 sampling points.
Total Ammoniacal Nitrogen (TNH_3-N)	99% species protection level for total ammoniacal nitrogen (TNH_3-N) as stipulated in the most recent version of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (the ANZECC guidelines) and as tabulated in Schedule XXIII.[19]
Other Toxicants	95% species protection levels for toxicants (other than nitrate-nitrogen and total ammoniacal nitrogen) as stipulated in the most recent version of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (the ANZECC guidelines) for Water Management Zones 1, 2, 3 and 5. [19] 99% species protection levels for toxicants (other than nitrate-nitrogen and total ammoniacal nitrogen) as stipulated in the most recent version of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (the ANZECC guidelines) for Water Management Zone 4.[19]

[18] The numerical values in Table 5.9.1A are to be treated as "limits" at locations where the existing water quality is better than the relevant numerical value and as "targets" at locations where the existing water quality is worse than the relevant numerical value.

[19] For clarity this limit requires that the risk evaluation process set out in the ANZECC Guidelines will be followed on the basis of the specified protection level (99% or 95%). It does not mean that default trigger values defined in the ANZECC Guidelines will be used as limits.

Table 5.9.1B: Surface Water Quality Limits, Targets[20] and Indicators for the Tukituki River Catchment – Zone Specific.

The Water Management Zones referred to in Table 5.9.1B are mapped in Schedule XV.
The key to Table 5.9.1B is provided below Table 5.9.1C.

Water Management Zone	Mainstems/ Tributaries[21]	Periphyton Limits and Targets				DRP Limits and Targets	Nitrate-nitrogen Limits and Targets		DIN Limits and Targets	Indicators	
		(a)	(b)	(c)	(d)		(a)	(b)		Water Clarity	MCI
Zone 1 Lower Tukituki and Waipawa Rivers and Tributaries (excluding Papanui Stream catchment)	Mainstems	120	30	60	50	0.010	2.4	3.5	0.8	2.8	100
	Tributaries					0.015				1.6	100
Zone 2 Middle Waipawa River and Tributaries above SH2	Waipawa River	120	30	60	50	0.010	3.8	5.6	0.8	3.0	120
	Mangaonuku Stream									4.0	
	Tributaries					0.015				1.6	100

[20] The numerical values in Table 5.9.1B are to be treated as "limits" at locations where the existing water quality is better than the relevant numerical value and as "targets" at locations where the existing water quality is worse than the relevant numerical value.

[21] Mainstems include the following rivers:
- Zone 1 mainstem of the Tukituki River
- Zone 3 mainstems of the Tukituki and Tukipo rivers, and the Maharakeke, Porangahau, Makaretu and Kahahakuri streams.

Water Management Zone	Mainstems/ Tributaries[22]	Periphyton Limits and Targets				DRP Limits and Targets	Nitrate-nitrogen Limits and Targets		DIN Limits and Targets	Indicators	
		(a)	(b)	(c)	(d)		(a)	(b)		Water Clarity	MCI
Zone 3 Middle Tukituki River and Tributaries above Tapairu Road	Mainstems	120	30	60	50	0.010	3.8	5.6	0.8	3.0	120[23]
	Tributaries					0.015				1.6	100
Zone 4 Upper Tukituki and Waipawa Rivers	All	50	30	60	50	0.004	n/a	1.5	0.150	3.3	120
Zone 5 Papanui Stream	All	120	30	60	50	0.015	2.4	3.5	0.8	1.6	100

The Water Management Zones referred to in Table 5.9.1B are mapped in Schedule XV.
The Key to Table 5.9.1B is provided below Table 5.9.1C.

[22] Mainstems include the following rivers:
- Zone 1 mainstem of the Tukituki River
- Zone 3 mainstems of the Tukituki and Tukipo rivers, and the Maharakeke, Porangahau, Makaretu and Kahahakuri streams.

[23] Except that in the Maharakeke and Porangahau sub-catchments the MCI target is 100.

Table 5.9.1C: Surface Water Quality Deposited Sediment Indicators for the Tukituki River Catchment – Zone Specific.

The Water Management Zones referred to in Table 5.9.1C are mapped in Schedule XV.
The key to Table 5.9.1C is provided below.

Water Management Zone	Deposited Sediment Indicators (% sediment cover)
Zone 1 Lower Tukituki and Waipawa Rivers and Tributaries (excluding Papanui Stream)	10% in the Waipawa and Tukituki Rivers and 20% in all other naturally hard bottomed streams and rivers
Zone 2 Middle Waipawa River and tributaries above SH2	10% in the Waipawa River and Mangaonuku Stream and 20% in all other naturally hard bottomed streams and rivers
Zone 3 Middle Tukituki River and tributaries above Tapairu Road	10% in the Tukituki, Tukipo and Makaretu rivers and 20% in all other naturally hard bottomed streams and rivers (including Maharakeke, Porangahau and Kahahakuri Streams)
Zone 4 Upper Tukituki and Waipawa Rivers	10% in all naturally hard bottomed streams and rivers (including Tukituki, Waipawa and Makaroro Rivers)
Zone 5 Papanui Stream	20% in the Papanui Stream and all other naturally hard bottomed streams and rivers

Key to the Table 5.9.1B and C limits, targets and indicators:

Periphyton:

(a) Zone 4: Annual maximum algal biomass (mg Chlorophyll *a*/m^2). The annual maximum algal biomass shall be calculated as the maximum of monthly monitoring results obtained within an accrual period of 30 days over a period of 1 year.

Zones 1, 2, 3 and 5: Annual maximum algal biomass (mg Chlorophyll *a*/m^2). The annual maximum algal biomass shall be calculated as the annual maximum of monthly monitoring results obtained within an accrual period of 30 days over a period of 1 year.

(b) Annual maximum cover of visible river bed by periphyton as filamentous algae more than 2 cm long. The annual maximum algal cover shall be calculated as the annual maximum of monthly monitoring results obtained within an accrual period of 30 days over a period of 1 year.

(c) Annual maximum cover of visible river bed by periphyton as diatoms or cyanobacteria mats more than 0.3cm thick. The annual maximum algal cover shall be calculated as the annual maximum of monthly monitoring results obtained within an accrual period of 30 days over a period of 1 year.

(d) Annual maximum cover of visible river bed by periphyton as cyanobacteria mats more than 0.3 cm thick. The annual maximum algal cover shall be calculated as the annual maximum of monthly monitoring results obtained within an accrual period of 30 days over a period of 1 year.

Phosphorus:

Maximum average concentration of dissolved reactive phosphorus (DRP) when the river flow is at or below 3 times the median flow (mg DRP/L). The average concentration of DRP shall be calculated as the average of monthly monitoring results obtained over a period of 5 consecutive years.

Nitrate Nitrogen:

(a) Maximum median concentration of nitrate-nitrogen (mg NO_3-N /L). The median concentration of nitrate-nitrogen shall be calculated as the median of monitoring results obtained over a period of 1 year.

(b) Maximum 95th percentile concentration of nitrate-nitrogen (mg NO_3-N /L). The 95th percentile concentration of nitrate-nitrogen shall be calculated as the 95th percentile of monitoring results obtained over a period of 1 year.

Dissolved Inorganic Nitrogen:

Average concentration of dissolved inorganic nitrogen (mg DIN /L) at all river flows. The average concentration of DIN shall be calculated as the average of monthly monitoring results obtained over a period of 5 consecutive years.

Water Clarity Indicator:

Minimum median visual water clarity at or below median flow (m), measured as the horizontal sighting range of a black disc. The median visual clarity shall be calculated over a period of 5 consecutive years, filtered to exclude data points collected at river flows exceeding the median flow.

MCI indicator: Minimum average macro-invertebrate community index. The average MCI shall be calculated over a period of 5 consecutive years.

% Sediment Cover indicator: Maximum average % fine sediment cover where 'fine' is defined as particles less than 2 mm in diameter (excludes naturally soft bottom streams). The average % Sediment Cover shall be calculated over a period of 5 consecutive years.

Table 5.9.1D: Tukituki LUC Natural Capital; Nitrogen Leaching Rates[24]

LUC Class	I	II	III	IV	V	VI	VII	VIII
Rate (KgN/ha/year)	30.1	27.1	24.8	20.7	20	17	11.6	3

Table 5.9.2: Groundwater Water Quality Limits and Indicators Applicable 10m or More Below Ground Level in Productive Aquifer Systems

Aesthetic determinands	*E. coli*	Nitrate-nitrogen	Nitrate-nitrogen Indicator	All other determinants
Guideline value for any aesthetic determinand [Drinking-Water Standards for New Zealand (DWSNZ)]	Maximum concentration of Escherichia coli per 100 millilitres	Maximum 95th percentile concentration of nitrate-nitrogen (mg NO_3-N /L)	Maximum annual average concentration of nitrate-nitrogen (mg NO_3-N /L)	All other inorganic or organic determinands of health significance [DWSNZ]
Within guideline	<1	11.3	5.65	Maximum acceptable value (MAV)[25]

Key for Table 5.9.2:

Nitrate Nitrogen:

(a) Maximum annual average concentration of nitrate-nitrogen (mg NO3-N /L) shall be calculated as the annual average of monitoring results obtained over a period of 5 consecutive years.

(b) Maximum 95th percentile concentration of nitrate-nitrogen (mg NO3-N /L) shall be calculated as the 95th percentile of monitoring results obtained over a period of 5 consecutive years.

Note: These limits apply after reasonable mixing and disregarding the effect of any natural conditions that may affect the water body.

[24] These are calculated on a whole of farm property or whole of farming enterprise basis.

[25] The MAV is to be determined in accordance with the Drinking Water Standards for New Zealand (2005/ Revised edition 2008) or subsequent version, Appendix 1 and Table A1.3. Compliance with chemical determinands is to be based on results obtained over one year and where the sampling frequency is monthly or more frequently the number of exceedances required to be assessed as non-complying is zero.

5.9.3 Water Quantity Policies

POL TT7 MINIMUM FLOW REGIME

1. In Surface Water Allocation Zones 1, 2 and 3:

   (a) The minimum flow regime shall apply to existing[26] and new consented takes, but excluding activities which involve storage of water behind an instream dam and downstream takes reliant on the release of that stored water.

   (b) Transition periods shall be provided to implement increased minimum flows as shown in Table 5.9.3, to provide existing water users a reasonable time to adapt to the reduced security of supply, find alternative sources of water or provide on-farm water storage;

   (c) Subject to (d) below, consented takes from the mainstems of the Tukituki and Waipawa Rivers shall be subject to the downstream minimum flows for the mainstems set in Table 5.9.3. Takes from tributaries shall be subject to both the downstream mainstem minimum flows and the relevant tributary minimum flow set in Table 5.9.3.

   (d) Consented takes downstream of the Red Bridge flow management site (Waimarama Rd) shall be subject to the minimum flow at the Red Bridge flow management site except for consented takes below Black Bridge (Mill Rd) which shall not be subject to minimum flow restrictions set in Table 5.9.3;

   (e) Where a Community Irrigation Scheme stores water and subsequently releases it into a river for use by members of the Scheme or for the purpose of flushing flows, other (non-Scheme) takes from that river will be managed by using a river flow (for the purpose of comparing to the allowable Table 5.9.3 minimum flow) calculated or modelled by Hawke's Bay Regional Council to be that which would have occurred in the absence of the Scheme. This will ensure that water stored and released by the Scheme is used by Scheme participants and is not taken by other users.

POL TT8 ALLOCATION LIMITS

1. To manage the taking of surface water and groundwater in the Tukituki River catchment by:

   (a) Recognising that although allocation limits for surface water should be determined in order to provide a reasonable security of supply (such as avoiding an irrigation ban of ten consecutive days occurring more frequently than one year in ten), this is not achievable in the Tukituki River catchment given the minimum flows set in Table 5.9.3 and the existing volumes of water being abstracted;

   (b) Recognising that there is a significant degree of interconnectedness between groundwater in the Ruataniwha Basin and surface water flows within the basin as a whole and consequently surface flows further downstream;

   (c) Setting surface water and groundwater allocation limits that are based on the existing volume of consented abstraction (Tables 5.9.4 and 5.9.5 and Schedule XVIII);

   (ca) Enabling additional groundwater to be abstracted as a discretionary activity (Table 5.9.5 Tranche 2) provided that river flows are augmented to maintain the relevant minimum flows specified in Table 5.9.3 commensurate to the scale of effect of the Tranche 2 groundwater take.

   (d) Applying the Table 5.9.4 and 5.9.5 water allocation limits only to consented takes and not to takes allowed under section 14(3)(b) of the RMA, nor to takes occurring prior to 4 May 2013 under Rules 53 and 54, nor to the construction and operation of in-stream dams (including damming, taking, diverting, using and discharging), nor to downstream takes of water released from an instream dam for members of a Community Irrigation Scheme.

[26] Upon review or renewal.

Table 5.9.3: Tukituki River Catchment Minimum Flows

Surface Water Allocation Zone	Flow Management Site	Level of habitat protection	Minimum Flows (L/sec)	Period to which Minimum Flow applies
Zone 1 Lower Tukituki	Tukituki River at Red Bridge V22: 466581	Current level of protection	3500	Until 30 June 2018
		80% habitat protection for trout upstream of Red Bridge	4300	From 1 July 2018 until 30 June 2023
		90% habitat protection for trout upstream of Red Bridge	5200	From 1 July 2023
		80% habitat protection for trout between Red Bridge and Black Bridge	4300	From 1 July 2018
Zone 1 Papanui Stream	Papanui Stream at Middle Rd V22: 278432	90% habitat protection for longfin eel (estimated equivalent)	53	Ongoing
Zone 2 Waipawa River	Waipawa River at RDS/SH2 V22: 153339	Current level of protection	2300	Until 30 June 2018
		90% habitat protection for longfin eel	2500	From 1 July 2018
Zone 2 Mangaonuku Stream	Mangaonuku Stream U/S Waipawa V22: 116373	Current level of protection	n/a	n/a
		90% habitat protection for highest flow demanding fish species (estimated equivalent)	1170	From 1 July 2018
Zone 3 Tukituki River	Tukituki River at Tapairu Road V22: 183312	Current level of protection	1900	Until 30 June 2018
		90% habitat protection for longfin eel	2300	From 1 July 2018
Zone 3 Tukipo River	Tukipo River at SH50 U22: 948324	Current level of protection	150	Ongoing
Zone 3 Tukipo River	Tukipo River Ashcott Road U22: 080311	90% habitat protection for highest flow demanding fish species (estimated equivalent)	1043	From 1 July 2018

Table 5.9.4: Surface Water Allocation Limits

Surface Water Allocation Zones (Schedule XVI)	Direct Take Allocation Limit (L/sec)	Surface Water Depletion Allocation Limit (L/s)	Total Allocation Limit (L/sec)
Zone 1 - Lower Tukituki River	519	412	931
Zone 2 - Waipawa River and Tributaries above RDS/SH2	643	269	912
Zone 3 - Tukituki River and Tributaries above Tapairu Road	763	716	1,479
Sub- catchment allocation of allocation limit for Zone 3:			
Zone 3 - Kahahakuri Stream	176	174	350
Zone 3 – Makaretu Stream	32	8	40
Zone 3 - Tukipo River	152	84	236
Total catchment	1,925	1,397	3,322

Table 5.9.5: Groundwater Allocation Limits

Groundwater Allocation Zones (Schedule XVII)	Allocation Limit (m^3/year)
Zone 1 – Otane Basin	4,134,000
Zone 2 – Ruataniwha Basin north of the Waipawa River	Tranche 1 7,224,000
Zone 3 – Ruataniwha Basin south of the Waipawa River	Tranche 1 21,277,000
Zones 2 and 3 collectively	Tranche 2 15,000,000
Rest of the catchment	No limit set[27]

POL TT9 IMPLEMENTING MINIMUM FLOW REGIME AND ALLOCATION LIMITS

1. To implement the minimum flow regime and allocation limits in the Tukituki River catchment by:

   (a) Allowing the renewal of existing surface water and groundwater take consents provided:

      (i) There is no increase in the rate or the maximum 7-day[28] volume of take, except as provided for in (a)(ii) and(b) below;

      (ii) A seasonal volume[29] or annual volume is imposed in accordance with Schedule XVIII.

   (aa) Reviewing all consents that are not otherwise expiring to impose seasonal and annual volumes in accordance with POL TT9(1)(a) as necessary to ensure integrated management of surface water and groundwater resources. Ruataniwha Basin groundwater take consents will be reviewed in 2015.

   (ab) Prior to the replacement and review of existing Ruataniwha Basin consents in 2015 or the confirmation of seasonal volumes calculated in accordance with Schedule XVIII (whichever occurs first), in order to avoid potential over allocation the Hawke's Bay Regional Council will not grant new consents utilising Table 5.9.4 and Table 5.9.5 Tranche 1 water (being any increase in existing authorised takes or any applications for new takes).

   (b) After the replacement and review of existing Ruataniwha Basin consents in 2015, allowing for the further allocation of water, including water that is freed up through the surrender or non-replacement of existing takes by the consent holder, provided the new allocation does not result in any exceedance of the allocation limits in Table 5.9.4 or Table 5.9.5 and, except as provided for in (ba) below, subject to seasonal volumes being imposed in accordance with (a)(ii) above.

   (ba) Not imposing annual volume restrictions on takes for frost protection.

   (c) Assessing groundwater take applications against OBJ 44, POL 77 and POL TT11 in areas where no groundwater allocation limit is set in Table 5.9.5.

   (d) Not including any taking of water allowed under s14(3)(b) of the RMA or Rules 53 and 54, or Rule TT3 when summing volumes of take for comparison against the surface water allocation limits in Table 5.9.4 and the groundwater allocation limits in Table 5.9.5.

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27 Groundwater takes located outside of Groundwater Allocation Zones 1 to 3 are Discretionary Activities.

28 Where existing consents are renewed, but if a 28-day maximum limit is sought in place of a 7 day limit (as per Policy TT14 (g)) then the maximum 28-day limit will be four times the current, maximum 7 day limit.

29 Seasonal volume is the actual crop water requirement required over a crop's growing season (including any crop rotation).

(e) Reviewing the need, in 2020 and 2025, to increase the Table 5.9.4 and 5.9.5 allocation limits to include a provision for existing and future s14(3)(b) takes for animal drinking water in the event of a Community Irrigation Scheme progressing.

(f) Other than for takes which involve the storage of water behind an instream dam and downstream takes reliant on the release of that stored water, when a river is at or below its Table 5.9.3 minimum flow, takes from that river and groundwater takes to which minimum flow restrictions apply in accordance with POL TT11 shall be managed as follows:

(i) The taking of water allowed by section 14(3)(b) of the RMA may continue without further restriction;

(ii) Takes permitted under Rules 53 and 54 may be required to reduce their daily rate of take if Hawke's Bay Regional Council issues a Water Shortage Direction to that effect;

(iii) Consented takes for public water supplies, animal drinking water, animal welfare and sanitation (including dairy shed wash down and milk cooling), marae, schools and other educational facilities shall be required to reduce their daily rate of take to a reasonable and justifiable amount as specified in their consent conditions;

(iv) Takes for frost protection and takes for filling agrichemical spray tanks shall continue to be allowed without further restriction;

(iva) The taking of water authorised for the sole purpose of avoiding the death of horticultural or viticultural root stock or crops shall be allowed to occur to any extent allowed by conditions of consent as follows:

1. Water allocated for this purpose shall not exceed a cumulative instantaneous limit across all Surface Water Allocation Zones of 200 L/s;

2. The water shall only be available five days (120 hours) after minimum flow cessation take restrictions are imposed and where no practicable alternative sources of water are available or accessible;

3. Access to the water shall be provided as a first priority to the protection of the root stock of permanent horticulture such as orchards and viticulture; and

4. Access to the water shall be provided as a second priority to the protection of crops (excluding pasture species, animal fodder crops and maize).

(v) All other consented takes shall cease, or be managed in accordance with POL TT11.

POL TT10 HIGH FLOW ALLOCATION REGIME

1. To enable the taking of surface water from rivers that are flowing at a level above their median flow provided:

(a) The high flow take ceases when the river is at or below the High Flow Minimum Flow[30] as set in Table 5.9.6[31];

(b) Such high flow takes do not cumulatively exceed the allocation limits set in Table 5.9.6;

(c) The restrictions in (a) and (b) above do not apply to takes which involve storage of water behind an instream dam.

Table 5.9.6: High Flow Allocation Limits and Minimum Flow Regime

River name	Flow Management Site	High Flow Minimum Flow (L/sec)	High Flow Allocation Limit (L/sec)	High Flow Allocation Limit (m^3/day)
Tukituki River	At Red Bridge	22,022	2000[32]	172,800[32]
Tukituki River	At Tapairu Road	9,892	500	43,200
Waipawa River	At Waipawa (RDS/SH2)	8,991	500	43,200

POL TT11 MANAGING GROUNDWATER TAKES HYDRAULICALLY CONNECTED TO SURFACE WATER BODIES

1. To generally assess the effects of groundwater takes on surface water bodies, including wetlands, in the following manner:

(a) For wells screened shallower than 50 m below ground level (or 40m below ground level in the lower Tukituki catchment downstream of Red Bridge), an initial assessment can be based on a review of well locations, water levels and well lithology records, and the use of an appropriate scientific model using existing or known transmissivity and storativity values to

30 The High Flow Minimum Flow has been set at the median flow for each Flow Management Site.

31 These High Flow allocations are additional to those set out in Table 5.9.4

32 The allocation limit above the Red Bridge site is a cumulative one in so far as it includes the allocation limits above the Tapairu Road and Waipawa (RDS/SH2) sites.

determine whether surface water depletion is likely to be a concern and estimate the potential surface water depletion effects. Wells screened deeper than 50 m or 40 m respectively are excluded from this Policy;

(b) In the event that reliable data are not available to make the initial assessment, the applicant will be required to undertake an independent assessment of stream depletion effects using an appropriate scientific method e.g. using Guidelines for the Assessment of Groundwater Abstraction Effects on Stream Flow prepared by Environment Canterbury (Techniques for evaluating stream depletion effects, Supplement to the guidelines for the assessment of groundwater abstraction effects on stream flow (2000), Report No. R09/53, ISBN 978-1-86937-992-6). An acceptable method is the Hunt (2008)[33] method, documented in Hunt (2012)[34] (with the Q_13 function).

2. To generally manage the effects of groundwater takes (excluding those deep groundwater takes excluded by POL TT11(1)(a) on surface water bodies, including wetlands, in the following manner:

(a) The potential adverse effects of groundwater takes on surface water depletion shall be managed in accordance with Table 5.9.7;

(b) Groundwater takes that are classified as Direct, High or Medium in Table 5.9.7 shall be included within the surface water allocation limits described in POL TT8 and POL TT9;

(c) Groundwater takes that are classified as Direct in Table 5.9.7 shall be subject to the minimum flow limits in POL TT7 and POL TT9;

(d) Groundwater takes that are classified as High in Table 5.9.7 shall be subject to the minimum flow limits in POL TT7 and POL TT9, except that irrigation takes shall be able to continue to take up to 50% of the daily volume as specified in their consent conditions for the period when flows are at or below the minimum flow.

Table 5.9.7: Management of Surface Water Depletion Effects

Classification of surface water depletion effect	Magnitude of surface water depletion effect	Management approach
Direct	The surface water depletion effect is assessed as: (a) 90% or greater of the average groundwater pumping rate[35] after 7 days of pumping; and (b) greater than 2 L/s.	The calculated loss of surface water is included in the surface water allocation regime, and specific minimum flow restrictions are imposed on the groundwater take, subject to the proviso in POL TT11(2)(c).
High	The surface water depletion effect is assessed as: (c) 60% or greater and less than 90% of the average groundwater pumping rate[36] after 150 days of pumping; and (d) greater than 2 L/s.	The calculated loss of surface water is included in the surface water allocation regime, and specific rate of take / volume restrictions are imposed on the groundwater take in accordance with POL TT11(2)(d).
Medium	The surface water depletion effect is assessed as: (a) 20% or greater and less than 60% of the average groundwater pumping rate[36] after 150 days of pumping; and (b) greater than 2 L/s.	The calculated loss of surface water is included in the surface water allocation regime, but no specific minimum flow or rate of take restrictions are imposed on the groundwater take.
Low	The surface water depletion effect is assessed as: (a) less than 20% of the average groundwater pumping rate[36] after 150 days of pumping; or (b) 2 L/s or less.	The calculated loss of surface water is not included in the surface water allocation regime, and no specific minimum flow or rate of take restrictions are imposed on the groundwater take.

33 Hunt, B. (2008), Stream depletion for streams and aquifers with finite widths. ASCE Journal of Hydrologic Engineering, Vol. 13, No. 2, 80-89.

34 Hunt, B (2012), Groundwater analysis using function.xls. Prepared by Civil Engineering Department, University of Canterbury.

35 The average groundwater pumping rate is based on the lesser of the daily rate assuming pumping occurs for 24 hours per day or the 7 day volume averaged over 7 days assuming pumping occurs for 24 hours per day.

36 The average groundwater pumping rate is based on the seasonal or annual volume averaged over 150 days or full year whichever is applicable assuming pumping occurs for 24 hours per day.

POL TT12 TRANSFERS

1 To maximise the efficient use of water and improve security of supply by:

(a) Enabling the transfer of existing take consents to other sites within the same Surface Water Allocation Zone, Groundwater Allocation Zone or aquifer system;

(b) Enabling the management of temporary transfers within an irrigation season by a management entity[37] approved by Hawke's Bay Regional Council where the metering of takes and the telemetry of take data allows for real time management and monitoring of the water being taken.

POL TT13 COMMUNITY IRRIGATION SCHEMES

1. To enable Community Irrigation Schemes provided that the management of the take and the management of the Scheme:

(a) Demonstrates how the supply of irrigation water and the resulting use of irrigated production land will meet the limits and targets set by POL TT1 and POL TT2;

(b) Provides water for future irrigation demand at a security of supply described in POL TT8(1)(a), taking into account the effects of climate change;

(c) Ensures that water is available at a rate and quality sufficient to meet the domestic and stock water needs of any farm properties whose existing water supply is rendered unsuitable for human or animal drinking as a result of the implementation of the Community Irrigation Scheme, or alternatively ensures affected water supplies are appropriately treated at no additional cost to the affected party;

(d) Demonstrates industry good practice for irrigation scheme efficiency;

(e) Maintains or enhances terrestrial riparian biodiversity and surface water recreational opportunities within the catchment;

(f) Avoids, remedies or mitigates adverse effects on aspects of water quality and quantity that contribute to mauri in rivers and streams affected by the operation of the Community Irrigation Scheme.

POL TT13A IN-STREAM DAMS

1. In-stream dams shall be managed to ensure that:

(a) The minimum flows set in Table 5.9.3 are not breached more frequently or for a longer duration than would be the case in the absence of the in-stream dam;

(b) Flow variability above the minimum flows set in Table 5.9.3 is provided for to give effect to Objective TT1;

(c) Potential adverse effects on High Flow takes are considered.

POL TT14 CONSENT CATEGORISATION AND DURATIONS

1. To manage the taking and use of surface water and groundwater in the Tukituki River catchment, so as to give effect to POL TT7 to POL TT13A, as follows:

(a) The taking of water allowed by section 14(3)(b) of the RMA shall continue to be allowed without further restriction under this Plan;

(b) From 4 May 2013 no new taking of surface water shall be allowed under Permitted Activity Rule 54[38];

(c) From 4 May 2013 the renewal of existing surface take consents, and the renewal of existing groundwater take consents within Groundwater Allocation Zones 1 to 3, shall be a Restricted Discretionary Activity provided that the Table 5.9.4 or 5.9.5 Allocation Limits are not exceeded and the minimum flow regime is complied with. Renewed production land irrigation consents shall have durations not exceeding 20 years;

(d) From 4 May 2013 the taking of water associated with a Community Irrigation Scheme involving an in-stream dam or any other in-stream dam shall be a Discretionary Activity under Rule 55 and if granted the consent duration should reflect the capital investment required and may be up to 35 years;

(e) New takes within the Table 5.9.4, 5.9.5 or 5.9.6 Allocation Limits and complying with the minimum flow regime shall be a Discretionary Activity;

(f) Outside Groundwater Allocation Zones 1 to 3 the renewal of existing groundwater take consents and the taking of new groundwater shall be a Discretionary Activity;

[37] Such as water user groups or irrigator user groups.

[38] Note that taking groundwater as a permitted activity under Rule 53 is still allowed within the Tukituki River catchment.

(fa) Except as provided for in (a) to (f) above, takes (including those that do not comply with the minimum flow regime), shall be Non-complying Activities.

(fc) For takes granted under (e) to (fa) above the consent duration shall be no more than 20 years;

(g) Consent conditions shall be imposed that limit the instantaneous rate of take, the 28 day and seasonal volume of take for irrigation takes, and, except as provided for in POL TT9(1)(ba), the annual volume of take for non-irrigation takes;

(h) Single resource consents may be granted to cover multiple uses of water.

POL TT15 WATER MEASURING AND REPORTING REQUIREMENTS

1. Except as provided for in POL TT15(3), all consented takes from surface water or groundwater shall be measured as follows:

(a) Water meters shall be installed, in accordance with industry good practice and the most current version of the Hawke's Bay Regional Council's Technical Specifications and Installation Requirements for Flow Meters, where:

(i) The authorised rate of take is 5 L/s or greater; or

(ii) The take is subject to a minimum flow cessation condition.

(b) Any single mobile pumps or take systems that are used on more than one farm property or farming enterprise or for more than one take consent and a water meter is required in accordance with POL TT15(1)(a), an integral tamperproof GPS location of the mobile pump or take system's position with data provided at 15 minute intervals is required with telemetry data required by POL TT15(1)(g).

(c) To enable accurate measurement of consent take volumes, if a single bore or surface water take point is being used for consented takes and a take permitted by section 14(3) of the RMA, then the water used for section 14(3)(b) purposes shall be physically drawn off before the water meter, or another water meter shall be fitted to measure the section 14(3) component of the overall take.

(d) The meter shall have an installed accuracy within +/-5% for all volumes of water that are taken under the consent.

(e) The meter shall be sealed and made tamperproof to minimise the possibility of the meter or any adjacent components (e.g. data-loggers and telemetry equipment) being dismantled, altered or removed without visibly damaging the protective devices.

(f) The meter shall be verified upon installation. Meters shall be verified to be accurate every five years:

(i) A verification device that is accurate to within +/-3% shall be used to determine the insitu accuracy of the meter;

(ii) Flow rigs shall be used for all verification tests, unless a more suitable method has been approved by the Hawke's Bay Regional Council;

(g) The meter must be connected to a telemetry device fitted so that it is compatible with the Hawke's Bay Regional Council's telemetry system if one or more of the following apply:

(i) The take is subject to a minimum flow limit (including high flow allocation takes);

(ii) The consent covers multiple farm properties or farming enterprises and associated take points;

(iii) Single mobile pumps or take systems are used on more than one farm property or farming enterprise or for more than one take consent;

(iv) The consent is one of a number of consents where temporary transfers are being managed by a management entity approved by Hawke's Bay Regional Council as provided for in POL TT12;

(v) The consent is in a surface water or groundwater allocation zone defined by Schedule XVI and XVII;

(vi) The take is classified as having Direct or High Surface Water Depletion Effects as defined by POL TT11;

(vii) Telemetry is considered necessary by the consent authority to ensure compliance with conditions of consent.

(h) Should any parts of any water meter and telemetry component fail, they shall be replaced by new or temporary replacement parts within 7 days so that full operational status is able to be achieved.

2. Except as provided for in POL TT15(3), all consented takes that are required to be measured in accordance with POL TT15(1) shall generally be recorded and reported as follows:

(a) Where the meter is connected to a telemetry device in accordance with POL TT15(1)(g):

(i) Data must be transmitted to the Hawke's Bay Regional Council's telemetry system at least once in every 24 hour period;

(ii) The data logger and telemetry unit shall record the volume and rate of take every 15 minutes. Each 15 minute interval shall be date and time stamped with the New Zealand standard time at the end of that interval. When a telemetry device is not operative for any reason, the water meter shall be read manually at daily intervals and reported to Council within 7 days;

(iii) Telemetry devices shall not be able to be made inoperable while the pump or system is operating. Fixed telemetry devices shall be operative 365 days of the year, or if the device needs to be turned off to save on operating costs, the consent holder shall inform the Council when turning the telemetry device off;

(iv) On mobile pumps or take systems, water measuring devices, data loggers and telemetry components shall remain turned on during the irrigation season; and shall not be able to be made inoperable while the pump or take system is operating.

(b) Where the meter is read manually, it shall be read weekly and reported monthly to the Hawke's Bay Regional Council.

3. The method of measuring and reporting of water takes that are of a volume or nature that water meters cannot accommodate shall be consistent with the provisions of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010.

5.9.4 Tukituki Implementation Plan

POL TT16 IMPLEMENTATION PLAN

1. To give effect to the Regional Resource Management Plan provisions that apply within the Tukituki Catchment Hawke's Bay Regional Council will:

   (a) By 31 December 2014, develop an overall Implementation Plan in collaboration with iwi and hapū and other affected or interested stakeholders;

   (b) Report on the achievement of the Implementation Plan outcomes on a 5 yearly basis through the Plan Effectiveness Report; and

   (c) Support the establishment of a multi-stakeholder group for the Tukituki Catchment for the purpose of developing the Implementation Plan and facilitating input into the development and delivery of specific implementation or monitoring projects and programmes.

2. The Implementation Plan will include (but not be limited to):

   (a) A Regional Resource Management Plan effectiveness monitoring programme for the Tukituki Catchment;

   (b) Commissioning the monitoring and assessment of water quality, water quantity and freshwater, estuarine and coastal aquatic habitat environment matters and any other matters that reflect cultural interests and values, including kaitiakitanga and mauri;

   (c) The Tukituki Catchment Implementation Plan (draft April 2013);

   (d) The matters addressed in POL TT4(2) and POL TT5(2); and

3. To enable assessment and monitoring of the cultural values and mauri of the Tukituki Catchment the Hawke's Bay Regional Council will:

   (a) Resource, subject to POLTT16(5), and assist iwi and Tukituki hapū in the development of a mauri monitoring framework, including the use of wānanga with relevant technical experts on at least the following:

      i. Marine and coastal ecology;

      ii. River ecology and fish passage;

      iii. Water quality (e.g. nitrate/nitrogen) and quantity; and

      iv. Monitoring methodologies (e.g. mauri model, CHI, State of the Takiwa); and

   (b) Collaborate with iwi and Tukituki hapū to develop and implement a monitoring programme that gives effect to the mauri monitoring framework; and

   (c) Work with the iwi and Tukituki hapū to jointly report annually on the outcomes of the monitoring and any recommended actions to Hawke's Bay Regional Council; and

   (d) Incorporate the outcomes in the Plan Effectiveness Report.

4. For the purposes of POL TT16, Hawke's Bay Regional Council collaboration with iwi and Tukituki hapū will be based on tikanga Māori and an Engagement Plan to be developed in consultation with Te Taiwhenua o Tamatea, Te Taiwhenua o Heretaunga, Te Taiwhenua o Te Whanganui Ā Orotu and Ngāti Kahungunu Iwi Incorporated. The Engagement Plan shall be finalised by 30 June 2014 and shall include a collective iwi/hapū management group.

5. Hawke's Bay Regional Council will use its Annual Plan special consultative process to identify and commit the funding necessary to give effect to POL TT16(1) to (4) including the implementation of the Implementation Plan.

6.9 Tukituki River Catchment Rules

6.9.1 Land Use and Water Quality

Rule	Activity	Classification	Conditions/Standards/Terms/Matters of Control and Discretion /Notification
TT1 **Production land use** Refer to POLs TT1 to TT5	The use of production land on farm properties or farming enterprises in the Tukituki River catchment pursuant to s9(2) RMA.	**Permitted**	**Conditions/Standards/Terms** a. For farm properties or farming enterprises exceeding 4 hectares in area: (i) the records specified in Schedule XXI shall be retained for each year (1 June to 31 May) from 1 June 2013 onwards to enable a Nutrient Budget to be prepared, or (ii) copies of Nutrient Budget input and output files that have been prepared in accordance with an industry programme approved by Hawke's Bay Regional Council shall be kept; and those records or files shall be provided to the Hawke's Bay Regional Council upon request.[39] b. For farm properties exceeding 4 hectares in area a Farm Environmental Management Plan shall be prepared in accordance with Schedule XXII by 31 May 2018 and thereafter implemented by 31 May 2020. The Farm Environmental Management Plan shall be updated at 3 yearly intervals from 1 June 2018 and include; (i) a Nutrient Budget[40], incorporating the measurement or modelling of whole of property nutrient losses (kg/ha/year) calculated using the annual records specified in Schedule XXI and the Overseer Nutrient Budget model (or an alternative model approved by Hawke's Bay Regional Council); and (ii) a Phosphorus Management Plan including details specified in Schedule XXII; and (iii) All other information relevant to the farm property required for Farm Environmental Management Plans by Schedule XXII. c. The records kept in accordance with condition (a) (i) and (a) (ii) shall be reviewed annually in accordance with an industry programme approved by Hawke's Bay Regional Council (or in the absence of an industry programme, as directed by Hawke's Bay Regional Council) to assess whether any farm system changes are evident. If such a change is evident, the Nutrient Budget for the farm system and from 31 May 2018 the Farm Environmental Management Plan must be updated to determine whether the nitrogen leached from the land exceeds the Tukituki LUC Natural Capital; Nitrogen Leaching Rates in Table 5.9.1D on a whole of farm property or whole of farming enterprise basis. All reviews and amended Nutrient Budgets must be made available to the Hawke's Bay Regional Council upon request. d. For farm properties or farming enterprises exceeding 4 hectares in area, after 1 June 2020 the nitrogen leached from the land (measured or modelled as a loss from the root zone using Overseer or an alternative model approved by Hawke's Bay Regional Council) shall not exceed Tukituki LUC Natural Capital; Nitrogen Leaching Rates in Table 5.9.1D on a whole of farm property or whole of farming enterprise basis, estimated using a 4 year rolling average;

[39] If this condition is not complied with, Nutrient Budget inputs will be determined in accordance with the methodology specified in Schedule XXI.
[40] A Nutrient Budget is defined in the Glossary.

Rule	Activity	Classification	Conditions/Standards/Terms/Matters of Control and Discretion /Notification
			e. For single paddocks on land delineated in Schedule XX[41] as having a slope of 15 degrees or less all livestock (other than sheep) shall be excluded from the beds and margins of any lake, wetland and flowing river (whether intermittent or permanent) by 31 May 2020; f. For single paddocks on production land delineated in Schedule XX[41] as having a slope of greater than 15 degrees and where the stocking rate of livestock excluding sheep exceeds 18 stock units per hectare either: (i) all livestock (other than sheep) shall be excluded from the beds and margins of any lake, wetland and any flowing river (whether intermittent or permanent) by 31 May 2020; or (ii) Outside of the Papanui, Porangahau, Maharakeke, Tukipo, Kahahakuri and upper Tukituki corridor catchments (as shown in Schedule XIVc), for individual farm properties or farming enterprises exceeding 4 hectares in size, by 31 May 2020 a Phosphorus Management Plan shall be prepared as part of a Farm Environmental Management Plan and it shall include stock exclusion requirements where stock exclusion is reasonably practicable and alternative phosphorus loss mitigation measures where stock exclusion is not reasonably practical. (iii) Within the Papanui, Porangahau, Maharakeke, Tukipo, Kahahakuri and upper Tukituki corridor catchments (as shown in Schedule XIVc) Rule TT1(f)(i) must be complied with. g. Notwithstanding conditions (e) and (f), grazing of a permanently fenced riparian margin may occur for weed control purposes provided that: (i) The total period of grazing in any year does not exceed 7 days; (ii) The fenced riparian margin shall be grazed no more than twice in any year during the period 1 November to 30 April. h. Notwithstanding conditions (e) and (f), stock may continue to utilise managed stream crossing points (where stock are usually excluded from the surface water body but are actively herded across the surface water body by the farmer). i. Permanent and intermittent rivers that are crossed by formed stock races shall be bridged or culverted by 31 May 2020. j. After 31 May 2020, for farm properties or farming enterprises exceeding 4 hectares in area excluding: (i) Low intensity farming systems; and (j) Those that solely comprise plantation forestry (being forestry operations deliberately established for commercial purposes), nitrogen leached from the land shall be demonstrated[42] to be not causing or contributing to any measured exceedance of the Table 5.9.1B limits for the 95th percentile concentration of nitrate-nitrogen or the limit for dissolved inorganic nitrogen at the

[41] Schedule XX is based on slope classifications contained within the NZLRI and is at a coarse catchment scale. To determine compliance with Rule TT1 at a paddock scale, upon request HBRC will use the highest resolution Digital Elevation Model or LIDAR image available to determine the proportion of slope by using standard triangulation methods.

[42] "Demonstrated" means as a result of monitoring and/or modelling undertaken by the Hawke's Bay Regional Council. Individual land owners seeking Certificates of Compliance under Rule TT1 will not be required to undertake any modelling or water quality monitoring themselves.

Rule	Activity	Classification	Conditions/Standards/Terms/Matters of Control and Discretion /Notification
			downstream HBRC monitoring site nearest to the farm property or farming enterprise in the relevant mainstem or tributary of a river or to any measured exceedance of the Table 5.9.2 groundwater quality limits for nitrate-nitrogen.[43] k. For farm properties or farming enterprises exceeding 4 hectares in area, contaminants leached from the land shall be demonstrated[42] to be not causing or contributing to any breach of the Resource Management (National Environmental Standards for Human Drinking Water) Regulations 2007 or the guideline values or maximum acceptable values for determinands in the Drinking Water Standards of New Zealand (2005 Revised edition 2008) or subsequent version for any registered drinking water supply takes. (Note: Hawke's Bay Regional Council is satisfied that this permitted activity rule will not cause or contribute to any such breach for any registered drinking water supply but condition k. is included here for completeness.) l. Notwithstanding conditions (a) to (d) and (j) to (k) above, where a farm property or farming enterprise meets the Glossary definition of a low intensity farming system the requirements of conditions (a) and (b) above, shall only apply where the farm property or farming enterprise exceeds 10 hectares in area.
TT2 **Production land use** Refer to POLs TT1 to TT6	The use of production land on farm properties or farming enterprises pursuant to s9(2) RMA within the Tukituki River catchment that does not comply with Rule TT1.	**Restricted Discretionary**	**Conditions/Standards/Terms** a. The nitrogen leached from the production land does not result in the Table 5.9.1D Tukituki LUC Natural Capital; Nitrogen Leaching Rates on a whole of farm property or whole of farming enterprise basis being exceeded by more than 30 percent. **Matters of Discretion** a. The actual or proposed nutrient loss from production land within the farm property or farming enterprise in relation to: (i) Tukituki LUC Natural Capital; Nitrogen Leaching Rates on a whole of farm property or whole of farming enterprise basis in Table 5.9.1D having regard to POL TT4; (ii) The current surface water quality and the surface water quality limits in the catchment having regard to POL TT1; (iii) The current groundwater water quality and the groundwater water quality limits in the catchment having regard to POL TT2; (iv) Current estimates of catchment or water management zone loads of nitrogen and phosphorus having regard to POL TT4, TT5 and TT6; (v) Whether reasonable and practicable opportunities have been taken to reduce phosphorus losses from the farm property or farming enterprise having regard to POL TT5. (vi) Whether reasonable and practicable opportunities have been taken to reduce nitrogen losses from the farm property or farming enterprise having regard to POL TT4. b. The adequacy of any proposed industry good practices and any associated Farm Environmental Management Plan designed to avoid, remedy or mitigate the effects of the activity having regard to POL TT6. c. The imposition of mitigation measures where stock are unable to be excluded from water as required by Rule TT1.

[43] By 31 May 2018 HBRC will develop a Procedural Guideline in collaboration with primary sector representatives setting out how POL TT4(1)(h) and conditions (j) and (k) of Rule TT1 will be implemented. The Guideline will include, but not be limited to: the process for monitoring water quality trends and alerting affected farming properties if water quality limits are being approached; delineation of the 'capture zone' for the relevant water body (the area of groundwater or surface water contributing to the particular part of the water body in question); and, where Rule TT2 is triggered, an adaptive management process for reducing nitrogen leaching from affected farming properties based on the implementation of progressively more stringent on-farm management practices.

Rule	Activity	Classification	Conditions/Standards/Terms/Matters of Control and Discretion /Notification
			d. The imposition of mitigation measures where the activity is likely to contribute to or cause a breach of the Drinking-Water Standards for New Zealand having regard to POL TT1 and POL TT2. e. Monitoring and reporting requirements having regard to POL TT15. f. Duration of consent having regard to POL TT6(3). g. Review of consent conditions.
TT2A **Production land use** Refer to POLs TT1 to TT6	The use of production land pursuant to s9(2) RMA within the Tukituki River catchment that does not comply with Rule TT2.	**Non-complying**	

6.9.2 Takes

Rule	Activity	Classification	Conditions/Standards/Terms/Matters of Control and Discretion /Notification
TT3 **Takes** Refer to POLs TT9 and TT15	The take and use of surface water or groundwater, including groundwater takes located outside of Groundwater Allocation Zones 1 to 3.	**Permitted**	**Conditions/Standards/Terms** a. The take is for the purpose of filling agrichemical spray tanks for use on the same farm property on which the take occurs. b. The take is from an existing take point that is either: i. solely used for filling agrichemical spray tanks; or ii. part of an existing irrigation system but the spray filling off-take is situated upstream of any pump.
TT3A **Takes**	The take and use of surface water from an artificial water body or canal for hydro-electric generation purposes, where a. The hydro-electric generation facility is associated with a Community Irrigation Scheme; and b. The full volume of water used in the generation facility will be returned to the artificial water body or canal from which it was taken; and c. The maximum generation output from each facility does not exceed 4MW.	**Controlled**	**Conditions/Standards/Terms** a. Fish shall be prevented from entering the water intake for the generation facility unless they are already being prevented from entering the canal or water storage facility at the initial point of take; b. There shall be an existing resource consent to dam, divert, take and discharge water for the purposes of a Community Irrigation Scheme; and c. There shall be an existing written agreement with the holder of the resource consents for that Scheme. **Matters of Control** Hawke's Bay Regional Council will restrict its control to the following matters: a. Duration of consent having regard to POL TT14; b. Lapsing of consent; c. Review of consent conditions; d. The collection, recording, monitoring and provision of information concerning the exercising of the consent having regard to POL TT15. **Non-notification** Consent applications will generally be considered without notification, and without the need to obtain the written approval of affected persons.
TT3B **Takes** Refer to POLs TT7 to TT15	The replacement of an existing resource consent for the take and use of: a. surface water, or b. groundwater located within Groundwater Allocation Zones 1 to 3.	**Restricted Discretionary**	**Conditions/Standards/Terms** a. The take, in addition to all existing consented takes but excluding takes consented in association with in-stream dams, does not result in any exceedance of the allocation limits in Table 5.9.4, 5.9.5 (Tranche 1) or 5.9.6 (whichever is applicable); and b. The take complies with the relevant minimum flow regime. **Matters of Discretion** Hawke's Bay Regional Council will restrict its discretion to the following matters: a. The rate, volume and timing of the take; b. The reasonable need for the quantities of water sought in accordance with POL 32, POL 42, POL TT9 and any records of actual water use; ba. The practical availability and accessibility of any alternative sources of water where water is being sought under POL TT9(1)(f)(iva);

Rule	Activity	Classification	Conditions/Standards/Terms/Matters of Control and Discretion /Notification
			c. Where used for irrigation, the intended irrigation system and methods, their technical efficiency compared to industry good practice, and the setting of timeframes for improving technical efficiency; d. For groundwater takes: (i) the matters addressed in POL TT11; (ii) the effects the take (on its own, or in combination with other takes) has on any other authorised takes (including well interference drawdown effects); e. For surface takes the effects of any intake structure on fish passage andthe need for fish exclusion devices or screens; f. Duration of consent having regard to POL TT14; g. Lapsing of consent; h. Review of consent conditions; i. The collection, recording, monitoring and provision of information concerning the exercising of the consent having regard to POL TT15.
TT4 **Takes** Refer to POLs TT7 to TT15	The take and use of surface water or groundwater comprising: a. new surface water takes (applied for after 4 May 2013); b. new groundwater takes located within Groundwater Allocation Zones 1 to 3 (applied for after 4 May 2013); c. groundwater takes located outside of Groundwater Allocation Zones 1 to 3; d. new High Flow takes; e. Takes that do not comply with Rule TT3,TT3A or TT3B; excluding takes associated with a Community Irrigation Scheme involving an in-stream dam or any other in-stream dam (in which case Rule 55 applies).	**Discretionary**	**Conditions/Standards/Terms** a. The take, in addition to all existing consented takes but excluding takes consented in association with in-stream dams, does not result in any exceedance of the allocation limits in Table 5.9.4, 5.9.5 or 5.9.6 (whichever is applicable); and b. The take complies with the relevant minimum flow regime. c. No new groundwater takes from Groundwater Allocation Zones 2 and 3 utilising Tranche 2 groundwater may be exercised under this rule unless and until augmentation flows are discharged that are commensurate to the scale of effect of the proposed take, during the same irrigation season as the Tranche 2 groundwater takes are exercised, to each of the Waipawa River and the Upper Tukituki River or one or more of their respective tributaries at a rate of up to 715 l/s to each river catchment at the highest practicable elevation as required to maintain the relevant downstream minimum flows specified in Table 5.9.3.
TT5 **Takes** Refer to POLs TT7 to TT15	The take and use of surface water or groundwater that does not comply with Rules TT3, TT3A, TT3B or TT4, excluding takes associated with a Community Irrigation Scheme involving an in-stream dam or any other in-stream dam (in which case Rule 55 applies).	**Non-Complying**	

ADDITIONAL TERMS FOR THE GLOSSARY IN SECTION 9 OF THE REGIONAL RESOURCE MANAGEMENT PLAN

Community Irrigation Scheme
A water supply system that is capable of providing irrigation water to multiple production land properties and other ancillary uses.

Deep Groundwater
That groundwater abstracted from wells with a top screen depth of 50m or greater (metres from land surface). In the Lower Tukituki River catchment, below Red Bridge, deep groundwater is that groundwater sourced from wells with a top screen depth of 40m or greater.

DWSNZ
Drinking water standards for New Zealand (2005 Revised edition 2008) or subsequent version.

Environmental State Indicator
The numerical value for a water quality parameter that defines the desired state in order to safeguard the life supporting capacity of the water body.

Existing
For the purpose of Objective TT4, Policies TT1 to TT15 and Rules TT1 to TT5, existing means as at 4 May 2013.

Farming Enterprise
Means an aggregation of parcels of land within the same Surface Water Allocation Zones identified in Schedule XVI, held in single or multiple ownership (whether or not held in common ownership) that constitutes a single farming operating unit.

Farm Environmental Management Plan
Means a whole of farm environmental management plan which addresses environmental risks associated with irrigation management, animal effluent management, nutrient management, stock management and soil management and is prepared in accordance with the requirements listed in Schedule XXII.

Farm System Change
Means a change in farming practices beyond routine fluctuations that arise as a result of rotational, annual or seasonal variations in climatic and/or market conditions.

Flow Management Site
Means a site on the river where minimum flow limits are set and monitored.

Ground Water Allocation Zone (Tukituki)
An area of the catchment as shown in Schedule XVII that has a defined allocation limit for groundwater abstraction set in Table 5.9.5.

High Flow Take
Means a water take that occurs from a river that is flowing in excess of its median flow under the provision of Policy TT10.

Industry Good Practice
Refers to any farm management practice, the use of technology or changes to farming systems that provide for sound farm production methods, improved performance and reduces the environmental impact of the use of production land on the environment and that is promoted by the relevant primary production sector as industry good practice.

Intermittent River
A river that does not flow continuously and has a bed that is predominantly unvegetated and comprises silt, sand, gravel, boulders or similar material.

Land Use Capability Class (LUC)
Means a classification of areas of land within a farm property or farming enterprise in terms of its physical characteristics or attributes (e.g. rock, soil, slope, erosion, vegetation). The land use capability classes can be derived either from the New Zealand Land Resource Inventory or a suitably qualified person specifically assessing and mapping the land use capacity classes of land within a farm property or farming enterprise. Where the LUC is assessed by a suitably qualified person that person shall use the land use capacity survey handbook – a New Zealand handbook for the classification of land. 3rd Edition, Hamilton., Ag. Research; Lincoln, Landcare Research; Lower Hutt, GNS Science.

Level of Habitat Protection
In relation to Tukituki River catchment minimum flow limits, relates to the level of habitat protection as a percentage relative to the habitat available at the Mean Annual Low Flow.

Limit
For water quality - the derived numerical value for a water quality parameter that must not be exceeded. Limits apply where the existing water quality is better than the numerical value.
For water quantity – the maximum volume of water that can be abstracted from the resource (the allocation limit) and the minimum flow regime.

Low intensity farming system
Means farm properties or farming enterprises that contain no more than 8 stock units per hectare including permanent horticultural and viticultural crops (such as orchards, vineyards) and lifestyle properties; but does not include

a) Properties used for the production of rotational vegetable crops;

b) Dairy farms;

c) Grazed forage crops.

MACNL
Means Maximum Allowable Catchment Nitrogen Load which is the maximum amount of nutrient (in units of tonnes/year) that can be lost from land (root zone loss) within the Tukituki Catchment above Black Bridge. This includes land that is that is regulated by way of permitted activity or resource consent and land that is not regulated (e.g. native forest). Compliance with the MACNL is determined from root zone losses modelled using Overseer (or an alternative model approved by Hawke's Bay Regional Council).

MALF
Means Mean Annual Low Flow of a river and the average of the annual low flows occurring over 7 consecutive days for the years where river flow records are available for a river.

Managed stock crossing
Managed stream crossing refers to a point(s) along a stream where stock are actively herded across to access another paddock or part of the farm. It is intended that this activity be infrequent, not on formed raceways and that stock shall be actively managed.

Management Entity
In relation to Policy TT12, a legally established entity with authority from a group of consent holders to manage temporary transfers of water between consent holders.

MERI
A Monitoring Evaluation Reporting and Improvement Plan prepared as part of the Tukituki Catchment Implementation Plan which outlines how the non-regulatory approaches in Change 6 (Tukituki Catchment) will be implemented.

Minimum flow regime
Comprises the minimum flows in Table 5.9.3 and Table 5.9.6, together with the manner in which takes will be managed in relation to those minimum flows as described in POL TT7, POL TT9, POL TT10, POL TT11 and POL TT13A.

NESDW
Means National Environmental Standard for Sources of Human Drinking Water 2007, as referenced in the Resource Management (National Environmental Standard for Sources of Human Drinking Water) Regulations 2007.

Nutrient Budget
A Nutrient Budget means:

A statement of the total nutrient balance for a particular farm property or farming enterprise, taking into account all the nutrient inputs and all the outputs. It must be prepared or approved:

(i) using standard protocols recognised and approved by the Hawke's Bay Regional Council such as "Overseer Best Practice Input Standards"; and

(ii) by a person who is a Certified Nutrient Management Advisor or who has completed both the "Intermediate" and the "Advanced" courses in "Sustainable Nutrient Management in New Zealand Agriculture" conducted by Massey University.

The information requested by the Hawke's Bay Regional Council shall be provided in an electronic format compatible with HBRC information systems and may include but shall not be limited to the following reports from Overseer or their equivalent if an alternative model is used: Nutrient Budget, Nitrogen, Phosphorus, Summary, Nitrogen Overview.

Overseer
Overseer is a Nutrient Budget model that calculates and estimates the nutrient flows in a productive farming system and estimates nutrient losses on a long term average basis (in units of kg/ha/year). It is owned and administered by the Ministry of Primary Industries, Fertiliser Association of New Zealand and AgResearch.

Periphyton
Is a complex mixture of algae and slimes that attach to submerged surfaces in rivers.

Phosphorus Management Plan (PMP)
Means a plan prepared generally in accordance with industry code of practices which identifies the inherent environmental risks on the farm property or farming enterprise associated with phosphorus and sediment loss, the significance of those risks, and identifies management practices to be implemented to avoid or reduce the risks. In particular a PMP shall:

a. Aim to maintain or reduce phosphorus loss from the farm property;

b. Include a Nutrient Budget;

c. Identify critical source areas for phosphorus loss on a farm map;

d. Evaluate, using appropriate techniques, a range of farm specific phosphorus loss mitigation measures including, but not limited to:

(i) achieving optimum Olsen P levels in the soil;
(ii) the optimal use of phosphorus fertilisers;
(iii) sealing effluent ponds, practicing deferred irrigation of effluent and avoiding overland flows of effluent;
(iv) stock exclusion from water bodies;
(v) avoiding intensive animal feeding operations and the grazing of forage crops on shallow soils underlain by shingle or sand;
(vi) the mitigation measures listed in POL TT5(1)(f)(iii) to (v).

e. Include a time bound implementation plan that outlines which mitigation methods are to be used to maintain or reduce phosphorus loss from the farm property;

f. Be certified as being technically appropriate by an approved person who is a Certified Nutrient Management Advisor or who has completed both the "Intermediate" and the "Advanced" courses in "Sustainable Nutrient Management in New Zealand Agriculture" conducted by Massey University.

Potable
Water that is suitable for human consumption.

Seasonal volume
Is the actual crop water requirement required over a crops growing season (including any crop rotation).

Surface Water Allocation Zone (Tukituki)
An area of the catchment as shown in Schedule XVI that has a defined allocation limit for surface water abstraction set in Table 5.9.4.

Target
For water quality - the derived numerical value for a water quality parameter that is desired to be achieved over time. Targets apply where the existing water quality is worse than the numerical value.

For water quantity –the volume of abstraction that is desired to be achieved over time. Targets apply where the total volume of existing water abstractions exceeds the desired volume of abstraction.

Telemetry
Is a method of transmitting data electronically via data transfer mechanisms, a telephone or computer network, optical link or other wired communications like phase line carriers.

Tranche
A specified portion of groundwater from the Ruataniwha Aquifer.

TT
In reference to policy and rule titles means Tukituki and indicates that the policies and rules so referenced relate to the Tukituki Catchment only.

Water Management Zone
An area of the catchment as shown in Schedule XV that has defined surface water quality limits set out in Policy TT1 and Table 5.9.1A and 5.9.1B.

Schedule XVIII - Determination of Seasonal and Annual Allocations for water permits at 29 August 2013 (Tukituki River Catchment)

The method to be used for setting the seasonal and annual volumes for existing water permits is explained in this Schedule.

A. Groundwater Take Consents Within Groundwater Allocation Zones 1 -3 (Table 5.9.5 Tranche 1)

1. The Hawke's Bay Regional Council will determine the seasonal volume for each farming property or farming enterprise with an existing groundwater take consent for irrigation that is consistent with Policy 32. The seasonal volumes will be calculated using a consistent and appropriate scientific methodology[44] across all takes within the same groundwater allocation zone that will achieve a result consistent with Policy 32. Appropriate scientific methodologies include:

   - Soil Plant Atmosphere System Model (SPASMO-ir), Plant and Food Research;
   - IrriCalc, Aqualinc Research Limited, Report No C09065/4, November 2009).

   Allocation of water for each farming property or farming enterprise shall take into account multiple consents for irrigation of the same area. Ancillary uses of water (e.g. dairy shed supply) also specified as an authorised use by the consent shall be considered and provided for. This seasonal volume shall be the Seasonal Water Use Limit for each farming property or farming enterprise (*Volume A*).

2. In order to achieve consistency and equity between farming properties and farming enterprises, the seasonal volumes (*Volume A's*) will be derived without reference to any weekly or seasonal volume limits on the existing consents. The crop area and type as specified by the consent at 29 August 2013 and the mean daily flow rate[45], will be used for the purposes of calculating a seasonal volume as follows:

   a. Subject to (b) below, the mean daily flow rate will be divided by the consented crop area (ha) to determine the flow rate per hectare. The maximum flow rate per hectare shall not exceed the 90 percentile mean daily irrigation flow rate per hectare irrigated.[46]

   b. To avoid 'water banking', the seasonal volume assigned to the farming property or farming enterprise will be based on the area of land for which actual irrigation infrastructure exists at 31 May 2015, unless the applicant / consent holder has an implementation plan in place that demonstrates how full irrigation of their consented irrigation area will occur by 31 May 2018.

3. The Hawke's Bay Regional Council will sum all of the *Volume A* limits for the farming properties or farming enterprises, excluding the volume allocated to non-irrigation use consents, and this shall be called the *Aggregate Volume A*.

4. The Hawke's Bay Regional Council will determine the *Pro-rata Ratio* for each Groundwater Allocation Zone which shall be *Table 5.9.5 Groundwater Allocation Limit* excluding the volume allocated to non-irrigation use consents divided by *Aggregate Volume A.*

5. If the *Pro-rata Ratio* is equal to or greater than 1.0 then the groundwater allocation for each farming property or farming enterprise shall be the Seasonal Water Use Limit (*Volume A*).

6. If the *Pro-rata Ratio* is less than 1.0 then the groundwater allocation for each farming property or farming enterprise shall be the *Pro-rata Ratio* multiplied by Seasonal Water Use Limit (*Volume A*) for that farming property or farming enterprise.

7. For non-irrigation use consents, the annual volume shall be the existing consented annual volume, or if this is not specified, the weekly volume multiplied by 52 weeks.

8. Hawke's Bay Regional Council will additionally impose instantaneous limits of abstraction[47] (L/s) in all cases, and it may additionally impose 7 day or 28 day abstraction limits on a case by case basis.

B. Groundwater takes outside of Groundwater Allocation Zones

9. For groundwater takes outside of Groundwater Allocation Zones the seasonal volume will be set in accordance with clause 1 above. Clauses 7 and 8 will also apply.

C. Surface water Takes

10. For surface water takes the seasonal volume will be set in accordance with Policy 42. The seasonal volumes will be calculated using a consistent methodology across all takes within the same surface water allocation zone, and an appropriate scientific methodology that will achieve a result consistent with Policy 42. Appropriate scientific methodologies include:

    - Soil Plant Atmosphere System Model (SPASMO-ir), Plant and Food Research;
    - IrriCalc, Aqualinc Research Limited, Report No C09065/4, November 2009.

11. Hawke's Bay Regional Council will additionally impose instantaneous limits of abstraction[47] (L/s) in all cases, and it may additionally impose 7 day or 28 day abstraction limits on a case by case basis.

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44 The methodologies enable appropriate adjustments to model inputs to reflect particular circumstances.

45 The mean daily flow rate will be determined from the number of pumping hours per day and the maximum instantaneous pumping rate.

46 The 90 percentile mean daily irrigation flow rate per hectare is typically not more than 0.58 litres/sec/hectare (the equivalent of 5 mm per day) within Groundwater Allocation Zones 1 – 3.

47 The maximum instantaneous rate is determined by the applicant and is generally based on what the bore / pump is capable of delivering or the irrigation system specifications. Unless there are well interference effects that need to be managed through an adjustment in the instantaneous rate, it is the rate determined by the applicant that the Council will set as the maximum instantaneous rate on the resource consent.

Schedule XXI: Records to be kept for Nutrient Budgeting input into a Farm Environmental Management Plan (Tukituki River Catchment)

Records to be kept include the information set out below:

(a) Identification of the land area of the farm.

(b) A map or aerial photograph showing the different blocks within the farm.

(c) A map of the LUC classifications within the farm and areas within each LUC.

(d) A Nutrient Budget including phosphorus loss and nitrogen leaching rates for the whole of farm operation.

(e) Nutrient Budget input and output files that have been prepared in accordance with an industry programme approved by Hawke's Bay Regional Council. Modelling and/or measurement inputs should as far as practicable be actual results for the farm properties when entered in compliance with Nutrient Budget modelling best practice data input standards. For example inputs should include actual farm soil tests taken within the preceding three years.

(f) Annual stocking rate (numbers, types and classes) including a breakdown by stock class for each month.

(g) A description of the farm management practices used on each block including (where applicable):

(i) Ground cover – pasture, crops, non-grazed areas (including forestry, riparian and tree areas);

(ii) Stock management – lambing/calving/fawning dates and percentages, any purchases and sales and associated dates, types and age of stock;

(iii) Fertiliser management practices - types, quantities, timing, location and rates of application and details of varying procedures for different blocks;

(iv) Winter management of cattle grazed off – including the use of feed pads, grazing off or standoff pads;

(v) Crop management practices – area cultivated, method of cultivation, crop types, rotations, timing of sowing and harvesting, resulting use of crop, where and when it is fed out on farm or when it is exported and where to;

(vi) Supplementary feed brought onto the farm - feed type, annual tonnage, dry matter content, feed quality, nitrogen content;

(vii) Use of nitrification inhibitors and any other verifiable nitrogen leaching inhibitors.

Advisory Note: Where any of the matters (i) to (vii) have not been implemented on a particular block then that should be stated.

(viii) The results of any soil tests undertaken on the farm in the previous 36 months.

(h) Copies of annual accounts to verify the above information.

(i) Copies of invoices or receipts for purchases of stock, fertiliser, supplements imported or exported.

(j) Farm animal effluent, pig farm effluent, feed pad and stand-off pad effluent management including:

(i) Area of land used for irrigation;

(ii) Annual nitrogen loading rate and nitrogen load rate per application;

(iii) Instantaneous application rate.

(k) Clean water irrigation in terms of areas irrigated, depths of water applied and irrigation systems used.

Schedule XXII: Requirements for Farm Environmental Management Plans (Tukituki River Catchment)

A Farm Environmental Management Plan shall be prepared and implemented in accordance with either A or B below by a person with the appropriate professional qualifications. The plan shall take into account all sources of nutrients used for the farming activity and identify all relevant nutrient management practices and mitigation measures. The farm environmental management plan must clearly identify how the assigned industry 'good practices' and/or property nutrient allowances will be achieved. The plan requirements will apply to:

1. A plan prepared for an individual property or farming enterprise; or

2. A plan prepared for an individual property which is part of a farming enterprise or a collective of farm properties, including an irrigation scheme, an Industry Certification Scheme, or catchment club.

A Farm Environmental Management Plans prepared for individual farm properties or a farming enterprise that are part of an industry managed programme that has been approved by the Hawke's Bay Regional Council that includes the following attributes:

(a) A requirement for a farm management plan that includes as a minimum:

(i) The matters set out in B(1), B(2), B(3), B(4), B(5) and B(6) below;

(ii) Specified actions (if necessary) to address the risks to water quality associated with the major farming activities on the property and how the identified risks will be managed;

(iii) Measurement of nutrient losses or modelling using the OVERSEER™ Nutrient Budget model (or an alternative model approved by Hawke's Bay Regional Council), for each of the identified land management unit and the overall farm property in accordance with POL TT4;

(iv) Performance measures that are capable of being audited;

(b) A methodology that will enable the development of a plan that will identify the risks to water quality associated with the major farming activities on the property;

(c) Advice and technical support (including, for example, guidelines and templates) for the development and implementation of farm environmental plans;

(d) An audit system that audits the implementation of specific components of plans on a random sample basis across the Tukituki River catchment and on the basis of targeting farming operations that pose a high risk to water quality;

(e) A system of actions and/or consequences, for a farm property if and when an audit reveals non-compliance by that farm property with the A(a)(iv) performance measures.

B Farm Environmental Management Plans prepared for individual farm properties or a farming enterprise that are not part of an industry managed programme. The plan shall contain as a minimum:

1. Property details

(a) Physical address

(b) Description of the ownership and name of a contact person

(c) Legal description of the land and farm identifier

2. A map(s) or aerial photograph at a scale that clearly shows:

(a) The boundaries of the property

(b) The boundaries of the main land management units on the property.

(c) The location of permanent or intermittent rivers, streams, lakes, drains, ponds or wetlands.

(d) The location of riparian vegetation and fences adjacent to water bodies.

(e) The location of storage facilities, offal or refuse disposal pits, feeding or stock holding areas, effluent blocks, raceways, tracks and crossings.

(f) The location of any areas within or adjoining the property that are identified in a District Plan as "significant indigenous biodiversity".

(g) A Map of the LUC classifications within the farm and the areas within each LUC.

3. An assessment of the risks to water quality associated with the major farming activities on the property and how the identified risks will be managed.

4. A Phosphorus Management Plan as defined in the Glossary

5. A description of how each of the following management objectives will, where relevant, be met.

(a) *Nutrient management*: To minimise nutrient losses to water and achieve the Tukituki LUC Natural Capital; Nitrogen Leaching Rates in Table 5.9.1D on a whole of farm property or whole of farming enterprise basis.

(b) *Irrigation management*: To operate irrigation systems that are capable of applying water efficiently and management that ensures actual use of water is monitored and is efficient (including deficit irrigation and consideration of the use of precision irrigation).

(c) *Soils management*: To maintain or improve the physical and biological condition of soils in order to minimise the movement of sediment, phosphorus and other contaminants to waterbodies.

(d) *Wetlands and riparian management*: To manage wetland and waterway margins to avoid damage to the bed and margins of a water body, avoid direct input of nutrients, and to maximise riparian margin nutrient filtering.

(e) *Collected animal effluent management*: To manage the risks associated with the operation of effluent systems to ensure effluent systems are compliant 365 days of the year.

(f) *Livestock management*: To manage wetlands and water bodies so that stock are excluded from water in accordance with Rule TT1, to avoid damage to the bed and margins of a water body, and to avoid the direct input of nutrients, sediment, and microbial pathogens.

The plan shall include for each management objective:

(a) user defined measurable targets that clearly set a pathway and timeframe for achievement of the objective.

(b) a description of the good management practices together with actions required to achieve the objective and targets.

(c) the records for measuring performance and achievement of the target.

6. Nutrient Budgets prepared using the OVERSEER™ Nutrient Budget model (or an alternative model approved by the Hawke's Bay Regional Council), for each of the identified land management units and the overall farm property in accordance with POL TT4.

C Farm Environmental Management Plans shall be updated at three yearly intervals from 1 June 2018.

Schedule XXIII: Total Ammoniacal Nitrogen Concentrations at Other pHs and Temperatures (Tukituki River Catchment)

Chronic total ammoniacal-N concentration (mgTNH_3-N/L) limit at different water pH and temperature.

	Water Temperature (°C)															
pH	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	14.1	13.1	12.2	11.3	10.5	9.75	9.06	8.43	7.84	7.30	6.80	6.34	5.91	5.51	5.14	4.80
6.6	11.2	10.4	9.67	8.97	8.33	7.74	7.20	6.70	6.23	5.80	5.40	5.04	4.70	4.38	4.09	3.82
6.7	8.93	8.28	7.68	7.13	6.62	6.15	5.72	5.32	4.95	4.61	4.30	4.00	3.73	3.48	3.25	3.04
6.8	7.10	6.58	6.10	5.67	5.26	4.89	4.55	4.23	3.94	3.67	3.41	3.18	2.97	2.77	2.58	2.41
6.9	5.64	5.23	4.85	4.50	4.18	3.89	3.61	3.36	3.13	2.91	2.71	2.53	2.36	2.20	2.06	1.92
7.0	4.48	4.16	3.86	3.58	3.33	3.09	2.87	2.67	2.49	2.32	2.16	2.01	1.88	1.75	1.64	1.53
7.1	3.56	3.30	3.07	2.85	2.64	2.46	2.29	2.13	1.98	1.84	1.72	1.60	1.49	1.39	1.30	1.22
7.2	2.83	2.63	2.44	2.26	2.10	1.95	1.82	1.69	1.57	1.47	1.37	1.27	1.19	1.11	1.04	0.968
7.3	2.25	2.09	1.94	1.80	1.67	1.56	1.45	1.35	1.25	1.17	1.09	1.01	0.947	0.884	0.826	0.772
7.4	1.79	1.66	1.54	1.43	1.33	1.24	1.15	1.07	1.00	0.930	0.867	0.809	0.755	0.705	0.658	0.615
7.5	1.43	1.32	1.23	1.14	1.06	0.986	0.917	0.854	0.795	0.741	0.691	0.645	0.602	0.562	0.525	0.491
7.6	1.13	1.05	0.98	0.91	0.844	0.785	0.731	0.681	0.634	0.591	0.551	0.515	0.481	0.449	0.420	0.393
7.7	0.904	0.839	0.779	0.724	0.673	0.626	0.583	0.543	0.506	0.472	0.441	0.411	0.384	0.359	0.336	0.315
7.8	0.721	0.669	0.621	0.578	0.537	0.500	0.466	0.434	0.405	0.378	0.352	0.329	0.308	0.288	0.269	0.252
7.9	0.575	0.534	0.496	0.461	0.429	0.400	0.372	0.347	0.324	0.302	0.283	0.264	0.247	0.231	0.217	0.203
8.0	0.459	0.427	0.397	0.369	0.344	0.320	0.298	0.278	0.260	0.243	0.227	0.212	0.199	0.186	0.175	0.164
8.1	0.37	0.341	0.318	0.296	0.275	0.257	0.240	0.224	0.209	0.195	0.183	0.171	0.160	0.150	0.141	0.133
8.2	0.294	0.274	0.255	0.237	0.221	0.206	0.193	0.180	0.168	0.158	0.148	0.138	0.130	0.122	0.115	0.108
8.3	0.236	0.220	0.205	0.191	0.178	0.167	0.156	0.146	0.136	0.128	0.120	0.112	0.106	0.099	0.094	0.088
8.4	0.190	0.177	0.165	0.154	0.144	0.135	0.126	0.118	0.111	0.104	0.098	0.092	0.086	0.081	0.077	0.073
8.5	0.154	0.143	0.134	0.125	0.117	0.110	0.103	0.096	0.091	0.085	0.080	0.075	0.071	0.067	0.064	0.060
8.6	0.124	0.116	0.109	0.102	0.095	0.090	0.084	0.079	0.074	0.070	0.066	0.062	0.059	0.056	0.053	0.050
8.7	0.101	0.095	0.089	0.083	0.078	0.074	0.069	0.065	0.062	0.058	0.055	0.052	0.049	0.047	0.045	0.042
8.8	0.083	0.078	0.073	0.069	0.065	0.061	0.058	0.054	0.051	0.049	0.046	0.044	0.042	0.040	0.038	0.036
8.9	0.068	0.064	0.061	0.057	0.054	0.051	0.048	0.046	0.043	0.041	0.039	0.037	0.036	0.034	0.033	0.031
9.0	0.057	0.054	0.051	0.048	0.045	0.043	0.041	0.039	0.037	0.035	0.034	0.032	0.031	0.030	0.028	0.027
9.1	0.048	0.045	0.043	0.041	0.039	0.037	0.035	0.033	0.032	0.031	0.029	0.028	0.027	0.026	0.025	0.024
9.2	0.040	0.038	0.036	0.035	0.033	0.032	0.030	0.029	0.028	0.027	0.026	0.025	0.024	0.023	0.022	0.022
9.3	0.035	0.033	0.031	0.030	0.029	0.028	0.027	0.026	0.025	0.024	0.023	0.022	0.022	0.021	0.020	0.020
9.4	0.030	0.029	0.028	0.026	0.025	0.024	0.024	0.023	0.022	0.021	0.021	0.020	0.020	0.019	0.019	0.018
9.5	0.026	0.025	0.024	0.024	0.023	0.022	0.021	0.021	0.020	0.020	0.019	0.019	0.018	0.018	0.017	0.017

CONSEQUENTIAL AMENDMENTS TO CHAPTERS 5 AND 6 OF THE REGIONAL RESOURCE MANAGEMENT PLAN

As a consequence of the new chapters 5.9 and 6.9, amendments have been made to the following parts of Chapter 5 and 6 of the operative plan:

Chapter 5.4	Surface Water Quality	Tukituki River Catchment excluded in its entirety
Chapter 5.5	Surface Water Quantity	Tukituki River Catchment excluded in its entirety
Chapter 5.6	Groundwater Quality	Tukituki River Catchment excluded in its entirety
Chapter 5.7	Groundwater Quantity	
Chapter 6.2	Summary of Rules	Update of summary table
Chapter 6.6	Discharges to Land/Water	Specific amendments made

Amendments are shown in grey shading with deletions shown as ~~strikethrough~~ over the pages that follow.

5.4 Surface Water Quality

The provisions of Chapter 5.4 do not apply within the Tukituki River catchment.

OBJECTIVE

OBJ 40 The maintenance of the water quality of specific rivers in order that the existing species and natural character are sustained, while providing for resource availability for a variety of purposes, including groundwater recharge.

Refer section 2.2 of this Plan

Explanation and Reasons

5.4.1 Prior to this Plan being prepared, the HBRC had already established an approach of managing rivers, lakes and wetlands for the purposes of aquatic ecosystems in its former Regional Policy Statement and Regional Water Resources Plan. These documents had also signalled the need to manage water quality for the purpose of contact recreation where this was practicable and desirable. Objective 40 above continues this overall approach– it establishes that rivers, lakes and wetlands are to be managed for both aquatic ecosystems and contact recreation purposes, where appropriate. During the life of this Plan the Council will continue to work towards surface water management on a catchment by catchment basis. The goal of managing for contact recreation purposes does not pre-suppose that contact recreation will occur, but rather sets a guideline which is another stage in the overall attainment of better water quality. Those stretches of river near the coast which are influenced by the sea will have guidelines which reflect the water quality expectations of the coastal marine areas, as set out in the Regional Coastal Plan.

POLICIES

POL 71 ENVIRONMENTAL GUIDELINES - SURFACE WATER QUALITY

5.4.2 To manage the effects of activities affecting the quality of water in rivers, lakes and wetlands in accordance with the environmental guidelines set out in Tables 7 and 8[16].

Table 7. Environmental Guidelines – Surface Water Quality
Part I - Guidelines that apply across the entire Hawke's Bay region

Issue	Guideline
1. Temperature	The temperature of the water should be suitable for sustaining the aquatic habitat.
2. Dissolved oxygen	The concentration of dissolved oxygen should exceed 80% of saturation concentration.
3. Ammoniacal nitrogen	The concentration of ammoniacal ($N\text{-}NH_4^+$) should not exceed 0.1 mg/l.
4.Soluable reactive phosphorus	The concentration of soluble reactive phosphorus should not exceed 0.015 mg/l.
5. Clarity	In areas used for contact recreation, the horizontal sighting range of a 200 mm black disk should exceed 1.6 m.

These guidelines apply after reasonable mixing and disregarding the effect of any natural perturbations that may affect the water body, as set out in Policy 72.

[16] Comparison of guidelines with existing water quality – Schedule III gives detailed explanation and reasons for the environmental guidelines for surface water quality, and the annual State of the Environment Update Report (HBRC) provides information on existing water quality.

Table 8. Environmental Guidelines – Surface Water Quality
Part II –Guidelines that Apply to Specific Catchments

Catchment Area	Faecal Coliforms (cfu/100 ml)	Suspended Solids (mg/l)
Aropaoanui River	200	50
Clive Rivers and tributaries	200	10
Esk River	200	50
Ikanui Stream	200	50
Kopuawhara Stream	200	50
Mangakuri Stream	200	50
Maraetotara River	200	50
Mohaka River	50	10
Ngaruroro River upstream of Fernhill Bridge	50	10
Ngaruroro River between Fernhill Bridge and Expressway Bridge	100	25
Ngaruroro River downstream of the Expressway Bridge	150	25
Opoutama Stream	200	50
~~Papanui Stream~~	~~150~~	~~10~~
Porangahau River	200	50
Puhokio Stream	200	50
Taharua Stream	50	10
~~Tukituki River and tributaries upstream of SH50~~	~~50~~	~~10~~
~~Tukituki River and tributaries between SH50 and Tamumu Bridge~~	~~200~~	~~10~~
~~Tukituki River downstream of Tamumu Bridge~~	~~100~~	~~10~~
Tutaekuri River upstream of Redclyffe Bridge	50	10
Tutaekuri River between Redclyffe Bridge and SH50	100	25
Tutaekuri River downstream of the Expressway Bridge	150	25
Waingonoro Stream	200	50
Waipatiki Stream	200	50
Waipuka Stream	200	50
Wairoa River and tributaries upstream of Frasertown	100	25
Wairoa River at and downstream of Frasertown	200	25

These guidelines apply after reasonable mixing and disregarding the effect of any natural perturbations that may affect the water body, as set out in Policy 72.

* The figures in Table 8 represent concentrations of contaminants in the water body that should not be exceeded after reasonable mixing.

Explanation and Reasons

5.4.3 Policy 71 sets out the surface water quality guidelines. In most cases, existing water quality reaches the levels set. However in some cases, such as faecal coliforms, there is a need for improvement. Overall, the present water quality of rivers and lakes throughout the region is good. Indeed, some water quality parameters are at a level throughout the region that limits the onset of problems, e.g. soluble reactive phosphorus is at a sufficiently low level that it restricts the undesirable growth of green algal slimes.

5.4.4 The water quality guidelines set out in Policy 71 are likely to be refined in future. The Ministry for the Environment is currently undertaking a substantial amount of work that is likely to influence the resource management approaches of regional councils in future. In particular, the Ministry is developing a suite of environmental indicators, and a methodology classifying specific reaches of catchments for different management purposes. As this information becomes available, the HBRC is likely to build upon, and refine, its present overall direction for water quality management (rather than start afresh). This is likely to mean that, in future, more detailed water management objectives and standards will be developed on a reach-by-reach basis for surface water resources in the region.

5.4.5 The relevance of the specific water quality parameters chosen in Policy 71 is as follows (note that further explanation and reasons of the parameters used is provided in Schedule III while the State of the Environment Report and Annual Updates provide information on existing water quality for comparative purposes):

(a) **Temperature –** Temperature changes have a significant effect on the functioning of aquatic ecosystems. Particular increases in temperature have adverse effects.

(b) **Dissolved oxygen –** An adequate concentration of dissolved oxygen is critical for sustaining aquatic life. An inadequate level is akin to 'suffocating' the aquatic ecosystem.

(c) **Ammoniacal nitrogen –** Ammoniacal nitrogen is toxic to aquatic fauna and, in sufficient concentrations, can also be linked to adverse instream pH and hardness. High concentrations are generally as a result of animal faecal material and decomposing organic matter being carried into waterways.

(d) **Soluble reactive phosphorus –** The presence of high concentrations of soluble reactive phosphorus can result in undesirable biological growths. It can also indicate that land use practices may not be appropriate, e.g. fertiliser application, grazing or cultivation of river margins. Soluble reactive phosphorus is naturally low in waterways in Hawke's Bay – maintaining these low levels will assist in the maintenance of instream habitat.

(e) **Faecal coliforms –** Faecal coliform bacteria are a general indicator of mammalian contamination, including human sewage. In sufficient numbers, faecal coliform bacteria denote a significant health risk. Achieving low levels is thus critical for contact recreation purposes. High numbers can also restrict macroinvertebrate fauna, and increase the abundance of benthic slimes and macro flora.

(f) **Suspended solids and clarity –** The presence of high levels of suspended solids or turbidity can inhibit the abundance of fish species, and reduce the diversity and abundance of instream life in general and restrict other uses. Poor clarity is likely to restrict contact recreation use.

POL 72 IMPLEMENTATION OF ENVIRONMENTAL GUIDELINES - SURFACE WATER QUALITY

5.4.6 To implement the environmental guidelines for surface water quality predominantly in the process of making decisions on resource consents in accordance with section 104 (1)(b) of the RMA, and in accordance with the following approach:

(a) **After reasonable mixing -** The environmental guidelines apply to surface water bodies after reasonable mixing of contaminants[17], and disregarding the effect of any natural perturbations that may affect the water body. The exception is where water diverted or discharged into water from a hydro-electric power scheme entrains sediment between the point of discharge and the point of reasonable mixing, causing a breach of the suspended sediments guidelines c (i) and (ii) below. In this case, the guidelines may apply at the point of discharge, disregarding the effect of any natural perturbations that may affect the water body.

(b) **At or below median flows or levels for all guidelines except suspended solids** – All environmental guidelines, except those for suspended solids, apply to flowing surface water bodies when the flow of water is at or less than the median flow, or for non-flowing water bodies, the level of water is at or less than the median level.

(c) **At all flows for suspended solids –** The guidelines for suspended solids apply as follows:

(i) At times when the suspended solids concentration is less than the specified guideline for a particular water body and location, an activity should not cause, or contribute to, a breach of the specified guideline. In no case should an activity cause more than a doubling of the suspended solids concentration or turbidity of the receiving water body.

(ii) At times when the suspended solids concentration is equal to or greater than the specified guideline, an individual activity should not cause the concentration of suspended solids or the turbidity in any river or lake to increase by more than 10%, as determined on a case by case basis.

[Note that the HBRC recognises that some resource users prefer to measure clarity, rather than concentrations of suspended solids or turbidity. While there is not a direct relationship between suspended solids and clarity that can be applied across the region, the HBRC is happy to work with any such resource users to establish allowable changes in clarity corresponding to the suspended solids limits where this is required.]

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[17] For the purposes of this Regional Plan, **"reasonable mixing in surface water"** of contaminants in surface water will generally be considered to have occurred as follows:

a) In relation to flowing surface water bodies, at whichever of the following is the least:
   (i) a distance 200 metres downstream of the point of discharge
   (ii) a distance equal to seven times the bed width of the surface water body, but which shall be not less than 50 metres, or
   (iii) the distance downstream at which mixing of contaminants has occurred across the full width of the surface water body, but which shall not be less than 50 metres.

b) In relation to lakes, at a distance 15 metres from the point of discharge.
   Alternatively, for activities that are subject to resource consents, "reasonable mixing" may be determined on a case by case basis through the resource consent process.

(d) **Existing good water quality –** Where existing water quality is better than the guidelines, no more than minor degradation of water quality will be allowed.

(e) **Improvement of poor water quality** – Where existing water quality is poorer than the guidelines, the following approach will be adopted:

(i) **Regulated activities –** Where activities that are regulated by way of resource consents (e.g. discharges of contaminants into water) are the predominant cause of poor water quality, improvements will be sought at the time of granting, reviewing or renewing the consent while having regard to the following:

- the degree to which the activity adversely affects aquatic ecosystems and contact recreation.
- the extent to which the activity causes the poor water quality relative to other activities
- for existing activities, the need to allow time to achieve the required improvements.

Where activities that are regulated by way of resource consents are not the predominant cause of degraded water quality, conditions will be imposed on such consents to avoid further degradation of water quality unless the HBRC is satisfied that:

- the activity will not cause any significant adverse effects on aquatic ecosystems and contact recreation.
- exceptional circumstances justify allowing further degradation, or
- in the case of discharges, the discharge is of a temporary nature, or is associated with necessary maintenance work.

(ii) **Unregulated activities –** Where activities that are unregulated are the predominant cause of poor water quality, non-regulatory methods (as set out in Chapter 4) will be used as the primary means for achieving an improvement in water quality, in particular:

- the provision of financial incentives to facilitate improved land management practices, including the retirement of riparian margins, or to enhance wetlands
- the provision of education and co-ordination.

Where no improvement or where further degradation is evident over time as a result of unregulated activities, the HBRC will consider the need for regulation of these activities.

(f) **Recognition of variables –** Consideration of the environmental guidelines will take into account the measurement uncertainties associated with variables such as location, flows, seasonal variation and climatic events.

(g) **Temporary / maintenance activities** (including those required for the management of a commercial forest) **–** Consideration of the environmental guidelines in relation to discharges will take into account the degree to which a discharge is of a temporary nature, or is associated with maintenance work.

Explanation and Reasons

5.4.7 Policy 72 sets out how the surface water quality guidelines are to be implemented. It specifies that the guidelines are to be implemented largely through resource consent processes, and then sets out the manner in which the guidelines will be used. This policy makes it clear that, where existing water quality is better than the guidelines, the present water quality should be maintained. By contrast, where existing water quality is worse than the guidelines, the Council will seek improvements by way of resource consents or non-regulatory methods as appropriate.

POL 72A DISCHARGE PERMITS – Matters for consideration[48]

(1) When considering any application for a discharge the consent authority must have regard to the following matters:

(a) the extent to which the discharge would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water including on any ecosystem associated with fresh water and

(b) the extent to which it is feasible and dependable that any more than minor adverse effect on fresh water, and on any ecosystem associated with fresh water, resulting from the discharge would be avoided.

(2) When considering any application for a discharge the consent authority must have regard to the following matters:

(a) the extent to which the discharge would avoid contamination that will have an adverse effect on the health of the people and communities as affected by their secondary contact with fresh water; and

(b) the extent to which it is feasible and dependable that any more than minor adverse effect on the health of the people and communities as affected by their secondary contact with fresh water resulting from the discharge would be avoided.

Explanation and Reasons

5.4.7A Policy 72A was inserted in accordance with the direction stated in Policy A4 of the National Policy Statement for Freshwater Management 2014 and took effect on 1 August 2014.

ANTICIPATED ENVIRONMENTAL RESULTS

Anticipated Environmental Result	Indicator	Data Source
Surface water bodies suitable for sustaining aquatic ecosystems	1. Temperature not changed by more than 3°C, nor raised above 25°C. 2. Dissolved oxygen not falling below guideline levels. 3. Ammoniacal nitrogen levels not exceeding guideline values. 4. Soluble reactive phosphorus values not exceeding guideline values. 5. Diversity and quantities of fish species or indigenous invertebrates is maintained.	Council Water Quality monitoring programme Annual SER monitoring

[48] NOTE 1: Policy 72A applies to the following discharges (including a diffuse discharge by any person or animal):
(a) a new discharge or
(b) a change or increase in any discharge –
of any contaminant into fresh water, or onto or into land in circumstances that may result in that contaminant (or, as a result of any natural process from the discharge of that contaminant, any other contaminant) entering fresh water.
NOTE 2: Pol 72A(1) does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2011 took effect on 1 July 2011.
NOTE 3: Pol 72A(2) does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2014 took effect on 1 August 2014.

5.5 Surface Water Quantity

The provisions of Chapter 5.5 do not apply within the Tukituki River catchment.

OBJECTIVE

OBJ 41 The maintenance of the water quantity of specific rivers in order that the existing aquatic species and the natural character[18] are sustained, while providing for resource availability for a variety of purposes, including groundwater recharge.

Refer section 2.2 of this Plan

POL 73 ENVIRONMENTAL GUIDELINES - SURFACE WATER QUANTITY

(a) To sustain aquatic ecosystems by establishing a minimum flow in a river as that level which will maintain the existing ecosystem.

(b) On rivers (or water management zones) where minimum flows have been established, all takes for which a resource consent is required will be required to cease when the river is flowing at or below the minimum flow. Except that where the taking has, as a primary purpose, the provision of drinking water to people or animals taking could be restricted to the level necessary to maintain human or animal welfare.

(c) To provide a known level of risk to resource users by ensuring that, for rivers with an established minimum flow, the total allocation authorised through the resource consent process does not result in authorised takes being apportioned, restricted or suspended for more than 5% of the time on average during November-April

(d) To sustain the natural character of the surface water body when determining the minimum flows and allocatable volumes for surface water bodies in Table 9.

Explanation and Reasons

5.5.1 Policy 73 recognises that Hawke's Bay is prone to extended dry periods when river flows can decrease dramatically. During these periods it is important to ensure, as far as possible, that aquatic ecosystems are not placed under additional stress over and above that which occurs naturally. In addition, the uses of water provided for as of right by the RMA (domestic use, stock water and fire fighting) need to be safeguarded.

POL 74 IMPLEMENTATION OF ENVIRONMENTAL GUIDELINES - SURFACE WATER QUANTITY

(a) **Resource Allocation**: to define the allocatable volume as being the difference between the summer 7-day Q95 and the minimum flow

(b) To implement the environmental guidelines for surface water quantity predominantly in the process of making decisions on **resource consents** in accordance with section 104 (1)(b) of the RMA, through Table 9.

[18] For the purposes of Section 5.5 **"natural character"** includes a range of qualities and features, which have been created and sustained by nature as distinct from those which have been constructed by people. The degree or level of natural character within an area depends to an extent to which natural elements, patterns and processes have occurred and the nature and extent of modifications to the natural environment.

Table 9. Minimum Flow and Allocatable Volumes for Specified Rivers

River name	Minimum Flow Site Name	Minimum Flow (l/s)	Allocatable Volume (m^3/week)	Map Reference
Awanui Stream	At The Flume	120	0	V21:357613
Awanui Stream	At Paki Paki Culvert	35	0	V21:351608
Esk River	At Shingle Works	1,400	355,018	V20:432945
Esk River	At SH2	1,100		V20:438939
Irongate Stream	At Clarks Weir	100	0	V21:367666
~~Kahahakuri Stream~~	~~At Onga Onga Road Bridge~~	~~200~~	~~17,250~~	~~U22:096357~~
Karamu River	At Floodgates	1,100	18,023	V21:427708
Karewarewa River	At Turamoe Road	75	-	V21:341622
Louisa Stream	At Te Aute Road	30	0	V21:410625
~~Maharakeke Stream~~	~~At Station Road~~	~~140~~	~~0~~	~~U23:041255~~
~~Makaretu Stream~~	~~At Watson Reach~~	~~170~~	~~53,827~~	~~U23:924270~~
Mangateretere Stream	At Napier Road	100	0	V21:438659
Maraekakaho River	At Taits Road	100	5,443	V21:170668
Maraetotara River	At Te Awanga Bridge	220	30,971	W21:520661
Ngaruroro River	At Fernhill Bridge	2,400	956,189	V21:330729
Nuhaka River	At Valley Road	80	41,731	X19:225329
Ongaru Drain	Wenley Road	5	0	V21:234653
~~Papanui Stream~~	~~At Middle Road~~	~~45~~	~~0~~	~~V22:278433~~
~~Porangahau Stream~~	~~At Oruawharo Road~~	~~50~~	~~-~~	~~U23:977259~~
Pouhokio Stream	At Allens Bridge	80	-	V22:498441
Poukawa Inflow	Site No. 1 (d/s dam)	10	0	V22:282504
Poukawa Inflow	Site No. 1a (u/s dam)	10	0	V22:285502
Poukawa Inflow	Site No. 6	3	0	V22:266478
Poukawa Stream	At Douglas Road	20	0	V22:298533
Raupare Stream	At Ormond Road	300	83,844	V21:398713
Te Waikaha Stream	At Mutiny Road	25	-	V22:361572
Trib. of Kauhauroa Stream	(Taylors)	5	0	X19:970397
~~Tukipo Stream~~	~~At SH 50~~	~~150~~	~~0~~	~~U22:948324~~
~~Tukituki River~~	~~At Red Bridge~~	~~3,500~~	~~1,407,751~~	~~V22:466581~~
~~Tukituki River~~	~~At Tapairu Road~~	~~1,900~~	~~492,307~~	~~V22:183312~~
Tutaekuri River	At Puketapu	2,000	928,972	V21:357812
Tutaekuri-Waimate	At Goods Bridge	1,200	367,114	V21:384751
Waimaunu Stream	At Duncans	10	15,304	X19:229300
~~Waipawa River~~	~~At Waipawa (SH2)~~	~~2,300~~	~~342,317~~	~~V22:163337~~

Explanation and Reasons

5.5.2 Objective 41 recognises the need to manage specific rivers for a range of in-stream and out of stream values and uses. It provides guidance on surface water management where there is potential conflict between uses of the water. The requirement is that surface water quantity is maintained to the extent that existing species, and natural character (excluding riparian vegetation in this context) are sustained, while providing for out of stream uses of the water including the recharge of aquifers.

5.5.3 Policy 74 recognises that Hawke's Bay is prone to extended dry periods when river flows can decrease dramatically. During these periods it is important to ensure, as far as possible, that aquatic ecosystems are not placed under additional stress over and above that which occurs naturally. In addition, the uses of water provided for as of right by the RMA (domestic use, stock water and fire fighting) need to be safeguarded.

5.5.4 The criteria for setting minimum flows are based on the following:

(a) identified or estimated habitat requirements for a range of species which currently exist in the river.

(b) the need to maintain water quality at low flows

(c) the need to meet recreational requirements

(d) Māori cultural and spiritual values

(e) the application of consistent methodology when setting and reviewing minimum flows

(f) the need to adequately provide for the recharge of groundwater

5.5.5 Established minimum flows may be altered by Plan Change on the basis of new information and/or a review of the criteria in relation to the specific river or stream.

5.5.6 In order to determine the maximum amount of water that could be sustainably allocated from a river the HBRC has selected the 7-day average flow that is exceeded 95% of the time over the summer period November-April as the key statistic. This statistic (the 7-day Q95) was selected because:

(a) It takes account of the natural availability of water within rivers.

(b) The November–April period is both the period of lowest flows and the time of greatest water demand in Hawke's Bay.

(c) The seven day averaged flow smooths out short-term variations that can skew low flow estimates.

(d) When a river is fully allocated and fully used the river should not drop below its minimum flow for more than 5% of the summer low flow period.

POL 74A WATER PERMITS – Matters for consideration

(1) When considering any application the consent authority must have regard to the following matters:

(a) the extent to which the change would adversely affect safeguarding the life-supporting capacity of fresh water and of any associated ecosystem and

(b) the extent to which it is feasible and dependable that any adverse effect on the life-supporting capacity of fresh water and of any associated ecosystem resulting from the change would be avoided.[49]

Explanation and Reasons

5.5.6A Policy 74A was inserted in accordance with the direction stated in Policy B7 of the National Policy Statement for Freshwater Management 2014 and took effect from 1 August 2014.

[49] NOTE 1: Pol 74A applies to:
(a) any new activity and
(b) any change in the character, intensity or scale of any established activity –
that involves any taking, using, damming or diverting of fresh water or draining of any wetland which is likely to result in any more than minor adverse change in the natural variability of flows or level of any fresh water, compared to that which immediately preceded the commencement of the new activity or the change in the established activity (or in the case of a change in an intermittent or seasonal activity, compared to that on the last occasion on which the activity was carried out).

NOTE 2: Pol 74A does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management took effect on 1 July 2011.

ANTICIPATED ENVIRONMENTAL RESULTS

Anticipated Environmental Result	Indicator	Data Source
The minimum flow is established and maintained at levels that provide for the sustaining of aquatic ecosystems and natural character in Hawke's Bay rivers	Measurement of river flow at minimum flow sites	Minimum flow monitoring and analysis
The maintenance of surface water quantity (other than by natural events) at a level which sustains the aquatic ecosystems in the relevant surface water bodies	Physical and biological parameters	Council SER monitoring

5.6 Groundwater Quality

The provisions of Chapter 5.6 do not apply within the Tukituki River catchment.

OBJECTIVES

OBJ 42 No degradation of existing groundwater quality in aquifers in the Heretaunga Plains ~~and Ruataniwha Plains~~ aquifer system~~s~~.

OBJ 43 The maintenance or enhancement of groundwater quality in unconfined or semi-confined productive aquifers[19] in order that it is suitable for human consumption and irrigation without treatment, or after treatment where this is necessary because of the natural water quality.

Refer section 2.2 of this Plan

POLICIES

POL 75 ENVIRONMENTAL GUIDELINES - GROUNDWATER QUALITY

5.6.1 Other than in the productive aquifer systems in the Tukituki River catchment, to manage the effects of activities affecting the quality of groundwater in accordance with the environmental guidelines set out in Table 10.

Table 10. Environmental Guidelines – Groundwater Quality

Issue	Guideline
CONFINED, PRODUCTIVE AQUIFERS IN THE HERETAUNGA PLAINS ~~AND RUATANIWHA PLAINS~~ AQUIFER SYSTEMS (as shown in Schedule IV)	
1. No degradation	There should be no degradation of existing water quality.
OTHER PRODUCTIVE AQUIFERS	
1. Human consumption	The quality of groundwater should meet the "Drinking Water Quality Standards for New Zealand" (Ministry of Health, 1995) without treatment, or after treatment where this is necessary because of the natural water quality
2. Irrigation	The quality of groundwater should meet the guidelines for irrigation water contained in the "Australian Water Quality Guidelines for Fresh and Marine Waters" (Australian and New Zealand Environment and Conservation Council, 1998) without treatment, or after filtration where this is necessary because of the natural water quality.

Explanation and Reasons

5.6.2 Policy 75 recognises the very high quality of groundwater in confined, productive aquifers in the Heretaunga Plains ~~and Ruataniwha Plains~~ aquifer systems, and the strategic importance of these groundwater resources to the region. It therefore establishes a regime of not allowing any degradation of the quality of these aquifers. Groundwater in the Tukituki River catchment (including the Ruataniwha Plains) is managed under chapter 5.9.

[19] For the purposes of this Plan a **"productive aquifer"** means an aquifer that has a sufficient quantity, quality and flow of water that it can be used for water supply purposes.

5.6.3 For other productive aquifers, the objectives and policies continue the approach established in the former Proposed Regional Water Resources Plan, of managing the water within these aquifers for the purposes of human consumption and irrigation. This may allow for some limited degradation of groundwater quality, provided the guidelines for human consumption and irrigation are met.

POL 76 IMPLEMENTATION OF ENVIRONMENTAL GUIDELINES – GROUNDWATER QUALITY

5.6.4 To implement the environmental guidelines for groundwater quality set out in Policy 75 predominantly in the following manner:

(a) **Resource consents –** The environmental guidelines will primarily be used in the process of making decisions on resource consents, in accordance with section 104 (1)(b) of the RMA.

(b) **Regional rules –** The environmental guidelines have also been incorporated in conditions, standards and terms in the rules set out in Chapter 6 of this Plan as appropriate.

And in accordance with the following approach:

(c) **After reasonable mixing -** The environmental guidelines will apply after reasonable mixing[20] of contaminants, and disregarding the effect of any natural perturbations that may affect the water body.

(d) **Heretaunga ~~& Ruataniwha~~ Plains confined aquifers –** To not permit any activity that is likely to cause any degradation of groundwater quality in confined productive aquifers in the Heretaunga Plains ~~and Ruataniwha Plains~~ aquifer systems. This means that activities involving the discharge of contaminants over the recharge areas will be regulated.

(e) **Other productive aquifers with good water quality -** For other productive aquifers where the existing groundwater quality is suitable for human consumption and irrigation (without treatment, or after filtration where this is necessary because of the natural water quality), to ensure that the groundwater quality remains within these guidelines.

(f) **Other productive aquifers with poor water quality –** Where existing water quality is poorer than the guidelines for "other productive aquifers", the following approach will be adopted:

(i) **Regulated activities –** Where activities that are regulated by way of resource consents (e.g. discharges of contaminants onto land) are the predominant cause of poor water quality, improvements will be sought at the time of granting, review or renewal of consent while having regard to the following:

- the extent to which the activity causes the poor water quality relative to other activities
- for existing activities, the need to allow time to achieve the required improvements.

Where activities that are regulated by way of resource consents are not the predominant cause of degraded water quality, conditions will be imposed on such consents to avoid further degradation of water quality unless the HBRC is satisfied that:

- exceptional circumstances justify allowing further degradation, or
- in the case of discharges, the discharge is of a temporary nature, or is associated with necessary maintenance work.

(ii) **Unregulated activities –** Where activities that are unregulated are the predominant cause of poor water quality, non-regulatory methods (as set out in Chapter 4) will be used as the primary means for achieving an improvement in water quality, in particular the provision of education and co-ordination.

Where no improvement or where further degradation is evident over time as a result of unregulated activities, the HBRC will consider the need for regulation of these activities.

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[20] For the purposes of this Regional Plan, **"reasonable mixing"** of contaminants in groundwater is considered to have occurred at whichever of the following is the lesser:
a) a distance 100 metres from the point of discharge, or
b) the boundary of the subject property.
Alternatively, for activities that are subject to resource consents, "reasonable mixing" may be determined on a case by case basis through the resource consent process.

(g) **Interconnections between aquifers and other water bodies –** Aquifers (including unconfined, unproductive aquifers) that have hydraulic connections with other aquifers or surface water bodies will be managed in a manner which avoids a breach of the environmental guidelines for those other water bodies that are hydraulically connected.

Explanation and Reasons

5.6.5 Policy 76 sets out how the guidelines for groundwater quality will be implemented. It specifies that the guidelines have been applied through regional rules, and will be used in resource consent processes. It then sets out the manner in which the guidelines will be applied.

POL 76A DISCHARGE PERMITS – Matters for consideration in catchments other than the Tukituki River catchment[50]

(1) When considering any application for a discharge the consent authority must have regard to the following matters:

(a) the extent to which the discharge would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water including on any ecosystem associated with fresh water and

(b) the extent to which it is feasible and dependable that any more than minor adverse effect on fresh water, and on any ecosystem associated with fresh water, resulting from the discharge would be avoided.

(2) When considering any application for a discharge the consent authority must have regard to the following matters:

(a) the extent to which the discharge would avoid contamination that will have an adverse effect on the health of the people and communities as affected by their secondary contact with fresh water; and

(b) the extent to which it is feasible and dependable that any more than minor adverse effect on the health of the people and communities as affected by their secondary contact with fresh water resulting from the discharge would be avoided.

Explanation and Reasons

5.6.5A Policy 76A was inserted in accordance with the direction stated in Policy A4 of the National Policy Statement for Freshwater Management 2014 and took effect on 1 August 2014.

ANTICIPATED ENVIRONMENTAL RESULTS

Anticipated Environmental Result	Indicator	Data Source
No degradation of existing groundwater quality in confined productive aquifers	Nitrate levels Pesticides and herbicides	Ministry of Health Council SER monitoring
Groundwater quality in productive aquifers which meets the "Drinking Water Quality Standards for New Zealand" (MoH, 1995)	Nitrate levels Pesticides and herbicides	Ministry of Health Council SER monitoring
Groundwater quality in productive aquifers which meets irrigation guidelines contained in the "Australian Water Quality Guidelines for Fresh and Marine Waters" (Australian and NZ Environment and Conservation Council, 1998)	Nitrate levels Pesticides and herbicides	Ministry of Health Council SER monitoring

[50] NOTE 1: Policy 76A applies to the following discharges (including a diffuse discharge by any person or animal):
(a) a new discharge or
(b) a change or increase in any discharge –
of any contaminant into fresh water, or onto or into land in circumstances that may result in that contaminant (or, as a result of any natural process from the discharge of that contaminant, any other contaminant) entering fresh water.
NOTE 2: Pol 76A(1) does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2011 took effect on 1 July 2011.
NOTE 3: Pol 76A(2) does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2014 took effect on 1 August 2014.

5.7 Groundwater Quantity

OBJECTIVE

OBJ 44 The maintenance of a sustainable groundwater resource.

Refer section 2.2 of this Plan

POLICIES

POL 77 ENVIRONMENTAL GUIDELINES - GROUNDWATER QUANTITY

(a) To manage takes of groundwater to ensure abstraction does not exceed the rate of recharge.

(b) To manage the available groundwater resource to ensure supplies of good quality groundwater.

(c) To manage the groundwater resource in such a manner that existing efficient groundwater takes[21] are not disadvantaged by new takes.

(d) To manage takes of groundwater to ensure abstraction does not have an adverse effect on rivers, lakes, springs, or wetlands.

5.7.1 The guidelines to achieve this policy are set out in Table 11.

Table 11. Environmental Guidelines – Groundwater Quantity
Guidelines that apply across the entire Hawke's Bay region

Issue	Guideline
1.Demand	The safe yield or groundwater allocation limit identified for an aquifer should not be exceeded.
2. Effects of takes on water quality	Takes should not contribute to the intrusion of salt water into fresh water aquifers.
3. Effects of takes on levels of rivers, lakes, springs and wetlands	Other than in the Tukituki River catchment takes should not cause a reduction in the flow of rivers, levels of springs or lakes or ecologically significant wetlands. Takes in the Tukituki River catchment are managed under POL TT11.
4. Effects of new takes on existing authorised users	The take should not adversely impact on existing efficient groundwater or surface water takes unless written approval from affected persons is obtained. .

Explanation and Reasons

5.7.2 Policy 77 recognises that groundwater is a critical resource in Hawke's Bay, and in many areas is the main source of water. It is therefore necessary to ensure that the resource is managed in a sustainable manner to accommodate a variety of needs. It is also important to recognise that demand for the resource is high across a variety of sectors, in particular horticulture and agriculture. It is critical that there is a degree of protection for existing resource consent holders and permitted users whose takes are efficient, from adverse effects of new or proposed takes.

[21] For the purposes of this Plan **"efficient taking"** of groundwater means a bore which penetrates the aquifer from which water is being drawn at a depth sufficient to enable water to be drawn all year (i.e. the bore depth is below the range of seasonal fluctuations in groundwater level), with the bore being adequately maintained, of sufficient diameter and screened to minimise drawdown, with a pump capable of drawing water from the base of the bore to the land surface.

POL 78 IMPLEMENTATION OF ENVIRONMENTAL GUIDELINES – GROUNDWATER QUANTITY

5.7.3 To implement the environmental guidelines for groundwater quantity set out in Policy 77 predominantly in the following manner:

(a) **Regional rules –** The environmental guidelines have been incorporated in conditions, standards and terms in the rules set out in Chapter 6 of this Plan, and to guide the level of regulation, as appropriate. In particular minor takes and uses of groundwater have been permitted provided adverse effects are managed in accordance with the environmental guidelines.

(b) **Resource consents –** The environmental guidelines will also be used in the process of making decisions on resource consents, in accordance with section 104 (1)(b) of the RMA.

Explanation and Reasons

5.7.4 Policy 78 establishes how the environmental guidelines for groundwater quantity will be implemented. They will be used in rules, and in the resource consent process.

POL 78A WATER PERMITS – Matters for consideration in catchments other than the Tukituki River catchment

(1) When considering any application the consent authority must have regard to the following matters:

(a) the extent to which the change would adversely affect safeguarding the life-supporting capacity of fresh water and of any associated ecosystem and

(b) the extent to which it is feasible and dependable that any adverse effect on the life-supporting capacity of fresh water and of any associated ecosystem resulting from the change would be avoided.[51]

Explanation and Reasons

5.7.4A Policy 78A was inserted in accordance with the direction stated in Policy B7 of the National Policy Statement for Freshwater Management 2014 and took effect from 1 August 2014.

ANTICIPATED ENVIRONMENTAL RESULTS

Anticipated Environmental Result	Indicator	Data Source
Avoid any significant adverse effects of water takes on the long term quantity of groundwater in the regions aquifers	Water level trends	Council SER monitoring
The availability of groundwater for use without it being taken at a rate that depletes the resource beyond a sustainable level	Water level trends	Council SER monitoring
Avoid or remedy significant adverse effects of groundwater takes on rivers, lakes, ecologically significant wetlands and springs	Flow or level data	Council surface water monitoring programme

[51] NOTE 1: Pol 78A applies to:
(a) any new activity and
(b) any change in the character, intensity or scale of any established activity –
that involves any taking, using, damming or diverting of fresh water or draining of any wetland which is likely to result in any more than minor adverse change in the natural variability of flows or level of any fresh water, compared to that which immediately preceded the commencement of the new activity or the change in the established activity (or in the case of a change in an intermittent or seasonal activity, compared to that on the last occasion on which the activity was carried out).

NOTE 2: Pol 78A does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management took effect on 1 July 2011.

6.2 Summary of Regional Rules

6.2.1 Table 13 (below) provides a summary of the rules for easy reference.

6.2.2 It is important to note that a "permitted activity" as described in the summary in Table 13 may be undertaken without resource consent only if the activity complies with all the conditions/standards/terms column in the permitted activity rule.

Table 13. Summary of Regional Rules

RULE NUMBER AND TITLE			*CLASSIFICATION*	*Page*
6.3	**LAND USE ACTIVITIES**			
6.3.1	**Bore drilling & leaking bores**			
Rule 1		Bore drilling	Controlled	122
Rule 2		Bore drilling that does not comply with Rule 1	Restricted discretionary	122
Rule 3		Unwanted or leaking bores	Non-Complying	123
Rule 4		Decommissioning of bores	Permitted	123
6.3.2	**Feedlots and feedpads**			
Rule 5		Feedlots and feedpads	Permitted	124
Rule 6		Feedlots and feedpads not complying with Rule 5	Restricted discretionary	124
6.3.3	**Vegetation clearance and soil disturbance**			
Rule 7		Vegetation clearance and soil disturbance	Permitted	125
Rule 8		Vegetation clearance and soil disturbance activities that do not comply with Rule 7	Restricted discretionary	126
6.4	**DISCHARGES TO AIR/LAND/WATER**			
6.4.1	**Agrichemicals – discharges to air/land/water**			
Rule 9		Small scale application of agrichemicals	Permitted	127
Rule 10		Widespread application of agrichemicals	Permitted	128
6.4.2	**Agricultural activities & other activities on production land – discharges to air/land/water**			
Rule 11		Fertiliser use	Permitted	129
Rule 12		Stock feed	Permitted	129
Rule 13		Use of compost, biosolids & other soil conditioners	Permitted	130
Rule 14		Animal effluent	Controlled	131
Rule 15		Animal effluent in sensitive catchments	Discretionary	132
Rule 16		Management of solid waste on production land	Permitted	133
6.5	**DISCHARGES TO AIR**			
6.5.1	**Combustion of fuel – discharges to air**			
Rule 17		Combustion of specified fuels	Permitted	136
Rule 18		Combustion of specified fuels	Controlled	137
Rule 18a		Rule 18a has been withdrawn. Withdrawal effective from 1 July 2011	-	137
Rule 18b		Discharge to air from open fires – Napier & Hastings Airsheds	Prohibited	138
Rule 18c		Discharge to air from any small scale solid fuel burner – Hastings Airshed	Permitted	138
Rule 18d		Discharge to air from any small scale solid fuel burner – Napier Airshed	Permitted	139
Rule 18e		Rule number not used		139
Rule 18f		Discharge to air from any small scale solid fuel burner or open fire in a registered historic building – Napier & Hastings Airsheds	Permitted	140
Rule 18g		Discharge to air from any small scale solid fuel burner – Napier & Hastings Airsheds	Prohibited	140
Rule 18h		Discharge to air from any small scale solid fuel burner or open fire at property ownership transfer – Napier & Hastings Airsheds	Prohibited	141

RULE NUMBER AND TITLE RULE NUMBER AND TITLE		CLASSIFICATION	Page
6.9 Tukituki River Catchment specific rules			
Rule TT1	Use of Production Land	Permitted	
Rule TT2	Use of Production Land	Restricted Discretionary	
Rule TT2A	Use of Production Land that does not comply with Rule TT2	Non-Complying	
Rule TT3	The take and use of surface water and groundwater for spray tanks	Permitted	
Rule TT3A	The take and use of surface water for hydro-electric generation purposes	Controlled	
Rule TT3B	Replacement of an existing take and use of surface water or groundwater	Restricted Discretionary	
Rule TT4	The take and use of surface water and groundwater	Discretionary	
Rule TT5	The take and use of surface water and groundwater that does not comply with Rules TT3B and TT4	Non-complying	

6.6.5 Generic Discharges of Contaminants - Discharges to Land/Water

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
47 **Discharges to surface water**[52] *Refer POL 71, 79*	The discharge of contaminants into surface water, pursuant to section 15 (1) (a) RMA, except as expressly regulated by other rules in this Plan.	**Permitted**[53]	a. The rate of discharge shall be no greater than 50 m^3/d. b. There shall be no adverse flooding effects on any property owned or occupied by another person, as a result of the discharge activity. c. There shall be no scouring or erosion of any land or any water course beyond the point of discharge. d. The discharge shall not cause the natural temperature[54] of any receiving water to be changed by more than 3°C from normal seasonal water temperature fluctuations, after reasonable mixing or cause an exceedance of the temperature limit in Table 5.9.1A (Tukituki River catchment). e. The discharge shall not cause the pH to change by more than 0.2 units, or to extend outside the range 6.5 to 9.0 units, after reasonable mixing. f. There shall be no production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials, or any emission of objectionable odour, in any receiving water after reasonable mixing[55]. g. There shall be no conspicuous change in the colour or visual clarity of any receiving water after reasonable mixing or exceedance of the water clarity limits in Policy TT3(1) (Tukituki River catchment). h. The discharge shall not cause the biochemical oxygen demand to increase by more than 2 g/m^3 in any receiving water body after reasonable mixing or cause an exceedance of the biochemical oxygen demand limit in Policy TT3(1) (Tukituki River catchment). i. The discharge shall not cause any increase in the concentration of pathogenic organisms or cause an exceedance of the *E.coli* limits in Table 5.9.1A (Tukituki River catchment). j. The discharge shall not cause the concentration of dissolved oxygen in any river or lake to drop below 80% after reasonable mixing or cause an exceedance of the dissolved oxygen limit in Table 5.9.1A (Tukituki River catchment). k. The discharge shall not cause the concentration of ammoniacal nitrogen (NH_4^+) in any river or lake to exceed 0.1 mg/l after reasonable mixing or cause an exceedance of the acute total ammoniacal nitrogen limits in Policy TT3(1) or the chronic total ammoniacal nitrogen limits in Table 5.9.1A (Tukituki River catchment).		

52 Rule 47 does not apply to the discharge of contaminants into water in relation to an existing high voltage electricity transmission activity. Refer to the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009.

53 **Compliance** - Where there is doubt about compliance with the Conditions (a) to (m) of Rule 47 it is the responsibility of the person undertaking the activity to prove to the council that the conditions are being complied with or a resource consent shall be required.

54 **"Natural temperature"** means the temperature which occurs naturally when the water is not influenced by known discharges or activities which may cause an increase or decrease in the temperature in the water.

55 See Glossary for a definition of **"after reasonable mixing"**.

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
			ka. The discharge shall not cause the concentration of dissolved inorganic nitrogen (DIN) in any river to exceed 0.8 mg/l as set out in Table 5.9.1B (Tukituki River catchment) after reasonable mixing. l. The discharge shall not cause the concentration of soluble reactive phosphorus in any river or lake to exceed 0.015 mg/l or cause an exceedance of the dissolved reactive phosphorus limits in Table 5.9.1B (Tukituki River catchment) after reasonable mixing. m. The discharge shall not cause the concentration of any other contaminant (including other nutrients, heavy metals, hazardous substances and indicator bacteria), after reasonable mixing, to: i. Increase by more than 5% in any natural or modified receiving water body or 10% in any artificial receiving water body; ii. Exceed the following standards: a. The contact recreation guidelines contained in "Bacteriological Water Quality: Guidelines for Marine and Fresh Water" (Ministry of Health and Ministry for the Environment, December 1998). b. The guidelines for the protection of freshwater aquatic ecosystems contained in the "Australian Water Quality Guidelines for Fresh and Marine Waters" (ANZECC, 1992). iii. Exceed the limits for other toxicants in Table 5.9.1A (Tukituki River catchment).		
48 **Discharges of solid contaminants, including cleanfill, to land that will not enter water**[56] *Refer POL 67*	The discharge of solid contaminants, including cleanfill, onto or into land in circumstances that will not result in any contaminant entering water, pursuant to section 15 (1) (d) and section 15 (2) RMA, except as expressly regulated by other rules in this Plan.	**Permitted**	a. The discharge shall not increase land instability or the risk of erosion. b. The discharge shall not cross the boundary of the subject property onto any other property, unless written approval is obtained from the affected property owner. c. The discharge shall not cause any increase in the concentration of any hazardous substances or pathogenic organisms on or in any land. d. The discharge shall not cause any increase in the risk of human or animal disease. e. The discharge shall not have any acid producing potential[57]. f. Upon request by the HBRC, a management plan, setting out how the conditions above will be met shall be prepared and provided to the HBRC. g. There shall be no discharge within 20 m of any surface water body, or over the Heretaunga Plains or Ruataniwha Plains unconfined aquifers as shown in Schedule IV, or within 20 metres of the coastal marine area, except for material extracted from a surface water body associated with the maintenance of legally established structures.		

[56] Rule 48 does not apply to the discharge of contaminants to land that will not enter water in relation to an existing high voltage electricity transmission activity. Refer to the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009.

[57] "**Acid producing potential"** is a laboratory measure of the ability of a rock or soil mass to generate acid drainage.

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
			h. Where the volume of solid contaminants on the subject property is greater than 100 m^3 the person responsible for the discharge shall notify the Hawke's Bay Regional Council within 7 days of that volume being reached or exceeded.		
49 **Discharges to land that may enter water[58]** *Refer POL 16, 71, 79*	The discharge of contaminants onto or into land, in circumstances which may result in those contaminants (or any other contaminant emanating as a result of natural processes from those contaminants) entering water, pursuant to section 15 (1) (b) RMA, except as expressly regulated by other rules in this Plan.	**Permitted[59]**	a. The rate of discharge shall be no greater than 50 m^3/d. b. The discharge shall not result in a breach of any of the conditions set out in Rule 47. c. The discharge shall not result in a breach of any of the conditions set out in Rule 48. d. The point of discharge shall occur no less than 600 mm above the winter ground water table. e. There shall be no surface ponding in the area of discharge, or runoff of any contaminant into a surface water body as a result of the discharge. f. The discharge shall not result in any airborne liquid contaminant being carried beyond the boundary of the subject property. g. There shall be no discharge within 20 m of any surface water body, or over the Heretaunga Plains or Ruataniwha Plains unconfined aquifers as shown in Schedule IV, except for material extracted from a surface water body associated with the maintenance of legally established structures. h. There shall be no surface ponding in the area used to store, mix or use the organic material, and no runoff of contaminants into any surface water body. i. There shall be no discharge within 30 m of any bore drawing groundwater from an unconfined aquifer into which any contaminant may enter as a result of the discharge. j. The discharge shall not cause any degradation of existing ground water quality in confined aquifers in the Heretaunga Plains and Ruataniwha Plains aquifer systems. k. For other aquifers, the discharge shall not cause or contribute to a breach of the following guidelines after reasonable mixing: i. The "Drinking Water Quality Standards for New Zealand" (Ministry of Health, 1995). ii. The guideline for irrigation contained in the "Australian Water Quality Guidelines for Fresh and Marine Waters" (Australian and New Zealand Environment and Conservation Council, 1998).		

[58] Rule 49 does not apply to the discharge of contaminants to land that may enter water in relation to an existing high voltage electricity transmission activity. Refer to the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009.

[59] **Compliance** - Where there is doubt about compliance with the Conditions (a) to (l) of Rule 49 it is the responsibility of the person undertaking the activity to prove to the council that the conditions are being complied with or a resource consent shall be required.

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
			l. Where the quality of ground water in any aquifer encompassed by condition (k) breaches the standards specified in that condition prior to the discharge occurring, the discharge shall not cause any further degradation of the quality of ground water in any such aquifer after reasonable mixing.		
50 **Disturbance of bed of river or lake by livestock** Refer POL *47, 79*	Subject to Rule TT1, the disturbance of the bed of any permanently flowing river or any lake arising from the entry of livestock.	**Permitted**	a. Other than in the Tukituki River catchment, the disturbance shall not cause any conspicuous change[60] in the visual clarity of the water after reasonable mixing. b. Supplementary feed is not deposited on the bed of the river or lake. c. Other than in the Tukituki River catchment,[61] the disturbance shall not result in faecal coliforms exceeding 200 cfu/100 ml in any receiving water after reasonable mixing.		
51 **Disturbance of bed of river or lake by livestock** *Refer POL 47, 79*	The disturbance of the bed of any permanently flowing river or any lake arising from the entry of livestock, which cannot comply with one or more conditions/standards/ terms in Rule 50.	**Discretionary**			Consent applications will generally be considered without notification and without the need to obtain the written approval of affected persons.

ADVISORY NOTES:

1. **Non-compliance with rules -** If any of the rules in this section cannot be complied with, then the activity is a discretionary activity under Rule 52.
2. **Discharges onto or into land that are not from industrial or trade premises** – Section 15(1)(d) of the RMA restricts the discharge of any contaminant from industrial or trade premises onto or into land. By contrast, the discharge of contaminants from other premises onto or into land is allowed (provided no contaminant enters water) unless specifically regulated by a rule.

[60] For the purpose of Rule 50, **"conspicuous change**" means more than 20% change in clarity as measured by a 200 mm black disc as per "Water Quality Guidelines Number 2" published by the Ministry for the Environment.

[61] Refer Rule TT1

6.6.6 Non-compliance with other Rules - Discharges to Land/Water

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
52 **Discharges that do not comply with rules 9-14, 16, 31-51** *Refer POL 14, 16, 17, 19, 22, 47, 48, 49, 71, 79*	The discharge of: • contaminants onto or into land, or into water, or • water into water which does not comply with any condition on a permitted activity rule, or any standard or term on a controlled activity rule within this Plan, but which is not expressly classified as a discretionary, non-complying or prohibited activity.	**Discretionary**			

6.7 Water Takes, Uses & Diversions

For information requirements refer to section 7.7

6.7.1 Take & Use of Water

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
53 Minor takes & uses of ground water *Refer POL 24, 33, 77*	The take and use of groundwater, excluding the take and use of groundwater from the water management zones shown in Schedule VI.	**Permitted**	a. The total volume taken shall not exceed 20 m^3/d per property[62] (other than for aquifer testing, for which the volume of take is not restricted). Note that: • The take and use of water for reasonable domestic needs[63], stock drinking purposes and fire fighting, including from locations within the groundwater management zones in Schedule VI is not required to be included in this measurement. • When the permitted activity limit of 20 m^3 per day is exceeded a consent is required for the total take. b. The rate of take shall not exceed 10 l/s (other than aquifer testing, for which the rate of take is not restricted). c. The take shall not adversely affect any lawfully established efficient groundwater take[64], or any lawfully established surface water take, which existed prior to commencement of the take unless written approval is obtained from the affected person. d. The take shall not adversely affect any wetland[65]. e. A backflow prevention device shall be installed in circumstances where there is the risk of contaminants flowing down a bore used for taking groundwater, into a groundwater aquifer.		

62 For the purposes of this Plan the term **'property'** refers to one or more allotments as contained on a single certificate of title, and also includes all adjacent land that is in the same ownership.

63 Refer to Glossary for definition of **"reasonable domestic needs"**.

64 For the purposes of this Plan, **"efficient taking"** of groundwater means abstraction by a bore which penetrates an aquifer from which water is being drawn at a depth sufficient to enable water to be drawn all year (i.e. the bore depth is below the range of seasonal fluctuations in groundwater level), with the bore being adequately maintained, of sufficient diameter and screened to minimise drawdown, with a pump capable of drawing water to the land surface.

65 For the purpose of this Plan the term **"wetland"** does NOT include:

- wet pasture land
- artificial wetlands used for wastewater or stormwater treatment
- farm dams and detention dams
- land drainage canals and drains
- reservoirs for firefighting, domestic or municipal water supply
- temporary ponded rainfall
- artificial wetlands.

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
54 **Minor takes & uses of surface water[66]** *Refer POL 35, 43*	The take and use of surface water, except from the following catchments, as shown in Schedule Via: • Maraekakaho Stream to confluence with Ngaruroro River. • Ahuriri Estuary catchment including Taipo Stream catchment. • Awanui Stream (including Poukawa Stream and Lake Poukawa catchments) to confluence with Karamu Stream. • Louisa Stream to confluence with Karamu Stream. • Papanui Stream. • Lake Tutira and catchment. • Herehere Stream. • Mangaroa Stream. • School Stream. • Karituwhenua Stream. • Te Waikaha Stream • and the whole of the Tukituki River catchment, except for existing takes occurring prior to 4 May 2013 which shall continue to be permitted.	**Permitted**	a. Except for takes occurring for a period of less than 4 weeks, the total volume taken shall not exceed 20 m^3/d[67] per property; (or per work site where the activity relates to the take and use of water for the maintenance of road reserves) nor shall the total volume exceed the reasonable needs of the user, whichever is the lesser. b. For takes occurring for a period of less than 4 weeks within any 90 day period, the total volume taken by any person shall not exceed 200 m^3 per 7 day period. c. The rate of take shall not exceed 10% of the instantaneous flow[68] at the point of take. d. The intake velocity shall not exceed 0.3 m/s. e. The activity shall not adversely affect any wetland. f. The take shall not adversely affect any lawfully established efficient groundwater take, or any lawfully established surface water take, which existed prior to commencement of the take unless written approval is obtained from the affected person.		
55 **Other takes & uses of surface & ground-water** *Refer POL 26-32, 36-43, 73, 77*	The take and use of surface water or groundwater, including takes and uses associated with or ancillary to Community Irrigation Schemes, except as provided for by Rules 53, 54, TT3, TT3A, TT3B and TT4.	**Discretionary**		.	

ADVISORY NOTE:

1. **Bore drilling** – Note that a land use consent is required for the drilling, construction or alteration of any bore, in accordance with Rule 1.

66 The taking of water for an individual's reasonable domestic needs and the reasonable needs of an individual's animals drinking water is not restricted by this rule.

67 When the permitted activity limit of 20 m^3 per day is exceeded, a consent is required for the total take.

68 "**Instantaneous flow"** refers to the rate of river flow at the time of measurement.

6.7.3 Transfer of Water Permits

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
60 **Transfer of permits to take & use surface water from a lake** *Refer POL36*	The transfer of a permit to take and use surface water from a lake, to another site.	**Permitted**	a. The transfer is to another site within the same lake.		
61 **Transfer of permits to take & use surface water from a river** *Refer POL 36, 79*	The transfer of a permit to take and use surface water from a river, to another site.	**Controlled**	a. The transfer is to another site within the same stream management zone,[60] where the flow is not significantly less than at the original site of abstraction. b. The transfer shall not result in any reduction in the rate of surface water recharge into groundwater. c. The transfer shall not adversely affect any lawfully established surface water abstraction, which existed prior to transfer of the take. d. The transfer shall not result in any increase in adverse effects on aquatic ecosystems or fish passage.	a. Timing of take. b. Design of intake. c. Duration of consent. d. Review of consent conditions. e. Compliance monitoring. f. Volume of water required by, or reasonable needs of, transferee. g. In the Tukituki River catchment, the efficient use of water having regard to POL TT12.	Consent applications will generally be considered without notification, without the need to obtain the written approval of affected persons.
62 **Transfer of permits to take & use ground-water** *Refer POL 25, 77*	The transfer of a permit to take and use groundwater, to another site.	**Controlled**	a. The transfer is to another site within the same aquifer. b. The transfer is to a location at which the aquifer has the same or greater aquifer transmission and storage characteristics. c. The transfer shall not adversely affect any lawfully established efficient groundwater abstraction,[61] which existed prior to transfer of the take. d. The transfer shall not cause any reduction in the flow of any river or spring.	a. Aquifer testing. b. Duration of consent. c. Review of consent conditions. d. Compliance monitoring. e. Volume of water required by, or reasonable needs of transferee. f. In the Tukituki River catchment, the efficient use of water having regard to POL TT12	Consent applications will generally be considered without notification, without the need to obtain the written approval of affected persons.

[60] "**Stream Management Zone"** refers to the reaches of a river and/or its tributaries governed by a single minimum flow site.

[61] For the purposes of this Plan **"efficient abstraction"** of groundwater means abstraction by a bore which penetrates an aquifer from which water is being drawn at a depth sufficient to enable water to be drawn all year (i.e. the bore depth is below the range of seasonal fluctuations in groundwater level), with a pump capable of drawing water to the land surface.