

# **5 REGIONAL PLAN OBJECTIVES AND POLICIES**

# 5.1 Environmental Objectives and Policies

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- 5.1.1 This Chapter establishes the resource management direction for the functions for which the Council has chosen to exercise its management responsibility through the preparation of a regional plan (other than a Regional Coastal Environment Plan).
- 5.1.2 The environmental objectives and policies in sections 5.2 to 5.8 form the framework of environmental management for the Regional Plan (excluding areas within the coastal environment). In order to achieve the objectives for each resource – land, air, surface water, groundwater and the use of river and lake beds - there is a policy in the form of a guideline, followed by a policy stating how implementation of the guideline will occur. Because the nature and use of each resource varies, the type and form of guideline for each resource will also vary, from the general to the specific. There is no “across the board” means of implementation of environmental guidelines.
- 5.1.3 The important factor, from HBRC’s point of view, is that the guidelines add value to Part II of the RMA by specifying the general direction for the HBRC and resource users to work towards, rather than relying on the RMA.
- 5.1.4 The environmental guidelines will be implemented in a variety of ways including through the following means:
- (a) **Regional rules** – The environmental policies have been incorporated in specific regional rules (contained in Chapter 6) as appropriate, especially those rules regulating discharges of contaminants into air and activities affecting river and lake beds. This means that they must be complied with for an activity to be classified in accordance with any such rule. For example, if they are used in a rule for a permitted activity, they must be complied with to avoid the need to obtain a resource consent. This is the most significant way in which the environmental policy for air quality will be used.
  - (b) **Resource consent decision making** – For those activities requiring a resource consent, the consent authority must have regard to any relevant provisions of a regional policy statement or proposed regional policy statement and any plan or proposed plan. The environmental policies would therefore be an important factor considered by a consent authority in making decisions on resource consent applications. This is the most significant way in which the environmental policies for surface water quality, ground water quality, and river and lake beds will be used.
  - (c) **Unregulated activities** – The environmental policies can also be used for activities that are unregulated. Under section 17(1) of the RMA, every person has “a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of that person, whether or not the activity is in accordance with a rule in a plan [or] a resource consent ...”. Enforcement orders and abatement notices may be issued in accordance with this general duty (as set out in section 17(3) of the RMA). HBRC will use the environmental policies as a guide to implementing section 17 of the RMA for unregulated activities.
  - (d) **Non-regulatory methods** – The policies will be used to give direction to the implementation of non-regulatory methods, to prioritise activities and enable areas in most need to be addressed first. For example, financial incentives for land management or riparian enhancement will target those land areas or water bodies most in breach of the respective environmental guidelines. This is the most significant way in which the environmental guidelines for land will be used.
  - (e) **Territorial authorities** – District plans prepared by territorial authorities (district and city councils) must not be inconsistent with this Regional Plan. In addition, territorial authorities must have regard to this Regional Plan when considering consent applications. Hence, these policies will also form a part of the resource management framework used by territorial authorities, and will form the basis of HBRC submissions to territorial authorities on relevant resource management matters.

## 5.2 Land

### OBJECTIVE

**OBJ 38** The sustainable management of the land resource so as to avoid compromising future use and water quality.

*Refer section 2.2 of this Plan*

### POLICY

#### **POL 67 ENVIRONMENTAL GUIDELINES - LAND**

5.2.1 To encourage landowners and occupiers to manage the effects of activities affecting soil (including both land use activities and discharges of contaminants onto or into land) in accordance with the environmental guidelines set out in Table 5 below and Table 7 following.

**Table 5. Environmental Guidelines – Land**

<b>Issue</b>	<b>Guideline</b>
<b>1. Appropriate land use</b>	Land use activities should not exceed the land use capability <sup>13</sup> of the subject land, as described in Schedule II to this Plan and assessed on-site.
<b>2. Soils prone to wind erosion</b>	Areas prone to wind erosion from land use activities should have preventative or remedial measures applied. The depth of soil should not be reduced at a rate that exceeds the natural rate of replenishment.
<b>3. Soils prone to other types of erosion</b>	Where vegetation is removed from areas prone to erosion, best management practices should be followed. These should include replanting the area within 18 months with vegetation that will provide equivalent or better land stabilisation, or other recognised methods that will stabilise land or prevent erosion.
<b>4. Soil health</b>	There should be no long-term degradation of the physical properties (including soil structure) or biological properties (including organic matter content) of soil.
<b>5. Soil contamination</b>	The discharge of contaminants into the soil, including hazardous substances, pathogens and diseases, should be at a level that will not cause acute or chronic toxic effects on humans or other non-target species, or have the potential to reduce long-term land use potential.
<b>6. Earthworks, roading, tracking</b>	In order to meet the surface water quality guidelines set out in section 5.4 where land is subject to earthworks, best practice should be adopted to mitigate or avoid the effects of runoff into water bodies (as necessary according to the erodibility of the soil).

### **Explanation and Reasons**

5.2.2 Objective 38 establishes the overall objective for land management in Hawke's Bay. It is based on the principle that land outside that used for urban, commercial or industrial activities should be used in a sustainable manner such that future use options and water quality are not compromised. The policies, which support the objective, establish how the land resource may be sustainably managed and how Council's land management functions will be implemented. For example, highly fertile flat to rolling land is likely to be suitable for a wide range of uses, including intensive cropping, horticulture, pastoral farming and forestry. By comparison, much of the land in Hawke's Bay is suitable for significantly fewer land use activities. Some areas may not be suitable for pastoral farming or in very steep, erodible areas for forestry. Land use capability throughout the region has been mapped as part of the New Zealand Land Resource

<sup>13</sup> "Land Use capability" refers to the assessed capability of an area of land to sustain a range of land use activities. The Hawke's Bay Regional Council has land use capability maps for the whole region – these are presented in Schedule II of the Planning Maps and should be read in conjunction with Schedule II of the text.

Inventory. This information is presented in Schedule II to this Plan. However the land use capability of specific sites requires individual on-site assessments.

5.2.3 Policy 67 establishes environmental guidelines for land. Guideline 1 continues the approach taken in the objective, that land should be used within its suite of sustainable land use activities. As noted above, Schedule II provides more detail on what this means in practice. Guidelines 2 to 6 address both physical parameters (soil erosion, vegetation removal, and earthworks) and chemical and biological parameters (soil health and soil contamination).

5.2.4 The visual soils assessment technique has been developed to provide soil health indicators for use by land users. A state of the environment monitoring framework is being developed for hill and flat land. Until this study is completed, a comparison of existing land use against land use capability will be the primary method of assessing the state of the soil resource in Hawke's Bay. This is shown in the maps in Schedule II to this plan, which are at a scale suitable for regional assessments. However the sustainable land use index of specific sites requires individual on-site assessments. Those areas identified as being used outside their capability can be assumed to be at most risk of soil loss or degradation.

## POL 68 IMPLEMENTATION OF ENVIRONMENTAL GUIDELINES – LAND

5.2.5 To implement the environmental guidelines for land set out in Policy 67 in the following manner:

- (a) **Non-regulatory methods** – The environmental guidelines for land will be predominantly implemented through non-regulatory methods, including the provision of financial incentives, the preparation of farm plans, and the provision of information, field days and other educational services.
- (b) **Unregulated activities** – If necessary, the environmental guidelines will be used as a guide to ascertain whether the provisions of section 17 of the RMA have been breached (the duty of every person to avoid, remedy or mitigate any adverse effect on the environment).
- (c) **Regulatory methods** - In association with the above non-regulatory methods to regulate vegetation clearance in accordance with the rules set out in Chapter 6 where significant adverse effects occur as a result of the vegetation clearance activities.

### Explanation and Reasons

5.2.6 The environmental guidelines for land will largely be used in association with non-regulatory methods, based on HBRC's overall stance to continue its approach of imposing very few rules regulating land use activities.

***Rule 7 is intended to allow most vegetation clearance as permitted activities providing water quality is reasonably protected and the activities do not impact adversely off-site.***

## ANTICIPATED ENVIRONMENTAL RESULTS

Anticipated Environmental Result	Indicator	Data Source
Land use activities not exceeding land use capability of subject land	% region being sustainably managed against land use capability	Land cover mapping (5 yearly)
Areas prone to wind erosion have remedial measures applied	% vulnerable land protected by shelterbelts or vegetative cover	Survey (5 yearly)
Areas prone to erosion are replanted within 18 months	Number of incidents reported/complaints received	Council records
No long term degradation of physical or biological properties	Flat land "500 soils" assessments Hill country – "Visual soil Assessment" technique	State of Environment monitoring
Reduction in number of sites with significant levels of contaminants in soils	Level of contamination below that which causes acute or toxic effects on humans, other non-target species, or reduces long term land use potential	Compliance monitoring
Surface water quality guidelines are met	<ul style="list-style-type: none"> <li>▪ Temperature not changed by more than 3°C, nor raised above 25°C</li> <li>▪ Dissolved oxygen not exceeding guideline value</li> <li>▪ Ammoniacal nitrogen levels not exceeding guideline values</li> <li>▪ Soluble reactive phosphorous values not exceeding guideline values</li> <li>▪ No loss of fish species or indigenous invertebrates</li> </ul>	Council surface water quality monitoring programme  Annual SER Reporting

## 5.3 Air Quality

### OBJECTIVE

- OBJ 39** A standard of ambient air quality is maintained at, or enhanced to, a level that is not detrimental to human health, amenity values or the life supporting capacity of air, and meets National Environmental Standards.
- OBJ 39a** A standard of local air quality is maintained that is not detrimental to human health, amenity values or the life supporting capacity of air.
- OBJ 39b** In the Napier, Hastings, Awatoto and Whirinaki Airsheds, improve ambient air quality so that by 1 September 2020 the concentration of PM<sub>10</sub> does not exceed 50 µg/m<sup>3</sup> (24 hour average), more than once in any 12 month period<sup>13a</sup>.
- OBJ 39c** In the balance of the region outside the Napier, Hastings, Awatoto and Whirinaki Airsheds, the ambient air quality shall be managed to ensure the concentration of PM<sub>10</sub> does not exceed 50 µg/m<sup>3</sup> (24 hour average), more than once in any 12 month period.

*Refer section 2.2 of this Plan*

### POLICY

#### POL 69 ENVIRONMENTAL GUIDELINES & STANDARDS – AIR QUALITY

- 5.3.1 To manage the effects of activities affecting air quality in accordance with the environmental guidelines and standards set out in Table 6 below.

**Table 6. Environmental Guidelines & Standards – Air Quality**

Issue	Guideline
<b>1. Odour</b>	There should be no offensive or objectionable odour beyond the boundary of the subject property <sup>14</sup> .
<b>2. Gases, airborne liquid &amp; other noxious or dangerous contaminants</b>	There should be no noxious or dangerous levels of gases or airborne liquid or other airborne contaminants beyond the boundary of the subject property, in concentrations and at locations that are likely to cause adverse effects on human health, ecosystems or property.
<b>3. Smoke &amp; water vapour</b>	The discharge should not result in any smoke, water vapour or other contaminant that adversely affects traffic safety, or reduces horizontal visibility within 5m of ground level beyond the boundary of the subject property.
<b>4. Dust</b>	Any dust deposition should not raise the ambient dust deposition rate by more than 4 g/m <sup>2</sup> per 30 days at any point beyond the boundary of the subject property.
<b>5. Particulate matter</b>	There should be no objectionable deposition of particulate matter on any land or structure beyond the boundary of the subject property.

<sup>13a</sup> Objective 39b predates the 2011 amendments to the Resource Management (National Environmental Standards for Air Quality) Regulations 2004. The amended regulations changed the timeframe for compliance with the ambient PM<sub>10</sub> standard specified in Objective 39b, to 1 September 2016 for the Napier Airshed and 1 September 2020 for the Hastings, Awatoto and Whirinaki Airsheds.

<sup>14</sup> “**Subject property**” means the legally defined property, whether private land or public land, within which the subject activity occurs and includes all land that is under common ownership.

<p><b>6. Ambient air quality</b></p>	<p>a. The ambient air quality must remain within the standards stated within the Resource Management (National Environmental Standards for Air Quality) Regulations 2004<sup>15</sup>.</p> <p>b. Where no national environmental standards exist the ambient air quality should remain within the New Zealand Ambient Air Quality Guidelines MfE 2002.<sup>15a</sup></p> <p>c. Where the existing ambient air quality is better than the concentrations specified in the standards and guidelines in (a) and (b), there should be no significant degradation of ambient air quality.</p>
<p><b>7. Decision making - Offsets</b></p>	<p>The matters to be taken into account when assessing offsets in accordance with Policy 69a - 5.3.1A(iii), shall include, but not be limited to:</p> <p>a. The amount of offset required shall be estimated in kilograms of PM<sub>10</sub> per day based on the likely worst case daily PM<sub>10</sub> emissions from the new activity during the months May to August. If there is no discharge from the new activity during the months May to August then no offset is required.</p> <p>b. The measurement of the “offset” discharge must take place at the same time of day as the new discharge or occur at a time of the day when meteorological conditions are more conducive to elevated PM<sub>10</sub>. The onus is on the applicant to demonstrate this.</p> <p>c. The “offset” discharge must be similar to the new discharge in terms of particle mode (fine or coarse) and composition except that it may differ if the applicant demonstrates that the “offset” discharge is more harmful.</p> <p>d. The “offset” discharge must not already be accounted for in air quality improvement programmes. In the Hastings and Napier Airsheds the following activities cannot be used for offsets:</p> <ul style="list-style-type: none"> <li>- Removal of open fires</li> <li>- Removal of solid fuel burners not complying with the requirements of schedule XII<sup>15b</sup></li> <li>- Outdoor burning</li> </ul> <p>e. The “offset” must be legally binding and must be effective from the first day of discharge from the new activity and for the duration of the consent for the new activity.</p> <p>f. The “offset” can be from a discharge within the same site. For example, an applicant may choose to install control technology such as a bagfilter on an existing discharge to “make room” for a new discharge.</p> <p>g. If the new discharge point is at a lower height than the “offset” discharge the applicant must demonstrate that the “offset” results in an equal or greater reduction in the maximum ground level concentrations of PM<sub>10</sub> (24-hour average).</p> <p>h. The applicant must demonstrate that the location of the “offset” discharge/s will have an equal or no greater impact on concentrations of PM<sub>10</sub> under meteorological conditions most conducive to elevated concentrations.</p> <p>i. The National Environmental Standards for Air Quality must be considered in relation to all ‘offsets’ as in some situations the National Environmental Standards for Air Quality may restrict their use.</p> <p>Note: For clarification, the “offset” discharge is the one that is being removed and the “new” discharge is the one that is new. The offset discharge must be therefore equal or “worse than the new discharge so there is an environmental improvement.</p>

**POL 69a PARTICULATE MATTER - PM<sub>10</sub> LEVELS**

5.3.1A Concentrations of PM<sub>10</sub> in the Hastings Airshed and Napier Airshed shall be reduced using the following strategies:

- (i) control discharges to air from dwelling houses, and industrial or trade premises producing particulate matter

<sup>15</sup> Ministry for the Environment (2011) Resource Management (National Environmental Standards for Air Quality) Regulations 2004.

<sup>15a</sup> Ministry for the Environment (2002) Ambient Air Quality Guidelines,

<sup>15b</sup> An exception to this could occur if the “offset” were only required for a short duration which does not extend beyond the period for which the appliance group is prohibited as per Rule 18g.

- (ii) prevent outdoor burning practices contributing any significant PM<sub>10</sub> during the time when Objective 39b and 39c might not be met
- (iii) minimise an overall increase in PM<sub>10</sub> emissions from other discharge sources, including large scale fuel burning equipment, unless:
  1. the PM<sub>10</sub> emissions are offset by reductions from other sources of similar emissions, beyond the reductions achieved through the implementation of this Policy; or
  2. the PM<sub>10</sub> emissions will not contribute to the ambient PM<sub>10</sub> concentrations during the time when an ambient air quality concentration of PM<sub>10</sub> is likely to exceed 50 µg/m<sup>3</sup> (24 hour average) in any airshed.
- (iv) ensure a reduction in emissions from small scale solid fuel burners by the amount that is sufficient to achieve the National Environmental Standard for PM<sub>10</sub>
- (v) ensure that the concentration of PM<sub>10</sub> emissions in the Napier Airshed and Hastings Airshed do not increase, and are reduced over time.

#### Explanation and Reasons

- 5.3.2 Prior to this Plan being prepared, the Hawke's Bay Regional Council had already established an approach for air management in its former Regional Air Plan. Objective 39 and 39a continue the direction set by the objectives of this former Plan. In particular, they recognise the need to focus on both ambient air quality and local air quality. Similarly, the environmental guidelines set out in Policy 69 follow the direction set in the former Regional Air Plan for regulating discharges of contaminants into air. This policy seeks to manage the range of effects that can be caused by discharges of contaminants into air, drawing on common conditions contained in rules in the former Regional Air Plan and in resource consents granted by the Hawke's Bay Regional Council.
- 5.3.3 Guidelines 1 to 5 largely address localised effects, recognising that these are the most common air quality problems. By comparison, Guideline/Standard 6 addresses ambient air quality. The Ministry for the Environment has produced Ambient Air Quality Guidelines for a range of key air contaminants, which detail the minimum requirements that outdoor air quality should meet in order to protect human health and the environment. Five of these guidelines have been implemented as mandatory standards in the form of National Environmental Standards, which are regulations under the Resource Management Act. The guideline and standard values are applied as a 'bottom line', and where existing air quality is better than the Ambient Air Quality Guidelines and Standards (which is the case for most areas in Hawke's Bay), the present air quality should be maintained. In other words, the existing air quality should not be allowed to degrade to the level of contamination specified in the New Zealand Ambient Air Quality Guidelines and National Environmental Standards for Air Quality (NESAQ).
- 5.3.3A PM<sub>10</sub> Ambient air quality in Hastings and Napier can be poor in winter and in 2008 did not meet the National Environmental Standards for PM<sub>10</sub>, with the main contribution coming from domestic heating sources; air quality within the Whirinaki and Awatoto Airsheds is also poor. However, the main contributor within these relatively small and focussed airsheds is industry. Excessive concentrations of PM<sub>10</sub> are associated with numerous health problems ranging from minor irritation of the eyes and nose to exacerbating existing respiratory problems among small children and the elderly in particular.
- 5.3.3B Objective 39b defines the ambient air quality PM<sub>10</sub> concentration to be achieved in the Napier, Hastings, Awatoto and Whirinaki Airsheds. Objective 39c covers the rest of the region and ensures the existing ambient air quality PM<sub>10</sub> concentration remains less than 50 µg/m<sup>3</sup> (24 hour average), with no more than one annual exceedance. Policy 69a outlines strategies to reduce particulate matter concentrations in the Hastings and Napier Airsheds to a level which complies with the NESAQ for PM<sub>10</sub>.
- 5.3.3C Objectives 39b, 39c and Policy 69a have been adopted in response to the National Environmental Standards for Air Quality set by the Ministry for the Environment in 2004. Objective 39b predates the 2011 amendments to the National Environmental Standards for Air Quality, which revised the timeframes for compliance with the ambient PM<sub>10</sub> standard from 2013 to either 2016 or 2020, depending on the number of times the ambient PM<sub>10</sub> standard was exceeded in an Airshed at 1 September 2011. The amended regulations require the National Environmental Standard for PM<sub>10</sub> to be met in the Napier Airshed by 1 September 2016, and in the Hastings, Awatoto and Whirinaki Airsheds by 1 September 2020.
- 5.3.3D The Hawke's Bay Regional Council will monitor changes in PM<sub>10</sub> concentrations in these airsheds. If monitoring indicates that Objective 39b will not be met, or that Objective 39c is at risk of being compromised, the Hawke's Bay Regional Council will initiate further measures, in addition to those outlined in the Plan. These measures may be regulatory, non-regulatory, or a combination of both.

## POL 70 IMPLEMENTATION OF ENVIRONMENTAL GUIDELINES AND STANDARDS – AIR QUALITY

- 5.3.4 To implement Policies 69, and 69a predominantly in the following manner:
- (a) **Regional rules** – The environmental guidelines and standards for air quality have been incorporated primarily in conditions, standards and terms in the rules set out in Chapter 6 of this Plan as appropriate. The environmental guidelines for air quality that refer to 'noxious', 'dangerous', 'offensive' or 'objectionable' effects will be interpreted in the manner described in section 6.1.4 of this Plan, and in accordance with any relevant case law.

- (b) **Resource consents** – The environmental guidelines and standards for air quality will also be used in the process of making decisions on resource consents, in accordance with Resource Management Act.
- (c) **Enforcement** – Enforcement action will be used, where necessary, to aid in implementing the standards and terms of the rules set out in Chapter 6 of this Plan. Any enforcement action will be undertaken in accordance with the enforcement provisions of the Resource Management Act.
- (d) **Resource Management Regulations** – National Environmental Standards apply across New Zealand. Some of these national standards prohibit or restrict certain types of activities affecting air quality. The Hawke's Bay Regional Council will enforce these standards in accordance with (c) above.
- (e) **Non-regulatory methods** – Non-regulatory methods will also be used, where appropriate, to assist in achieving the objectives and implementing policies within Section 5.3 of this Plan including:
  - i liaising with territorial authorities to seek the inclusion of appropriate land use policies, rules and methods within district plans, and building codes, as necessary to meet the objectives and policies within Section 5.3 of this Plan.
  - ii the Hawke's Bay Regional Council will influence and inform the community through the development of an appropriate communications and marketing strategy. Information will be provided to assist the community (including industrial and horticultural operators) understand the types of effects that can occur as a result of discharges of contaminants into air and the overall effects of such discharges on ambient air quality. Information will be provided advising appropriate methods to avoid, remedy or mitigate any adverse effects of discharging contaminants into air.
  - iii the Hawke's Bay Regional Council will encourage the use of dry wood through education.
  - iv the Hawke's Bay Regional Council will develop a best practice guide for the sale of wood by accredited dry wood merchants.
  - v provision of financial incentives. The Hawke's Bay Regional Council may choose to provide incentives and financial assistance to assist the Council in achieving Objective 39b and thereby comply with the NESAQ for PM<sub>10</sub>.
  - vi development of a best practice guide for outdoor burning to ensure that those undertaking the activity are aware of what steps need to be taken to minimise the effects from outdoor burning.
  - vii encouraging people currently using open fires and small scale solid fuel burners that are not NESAQ compliant burners to install cleaner forms of heating.

#### Explanation and Reasons

- 5.3.5 Policy 70 establishes that, unlike the environmental guidelines for land (which will largely be used in a non-regulatory manner), the environmental guidelines for air quality have been used to guide regulation as the principal means of meeting the air quality objectives. The Guidelines have been used in rules, and will be used in resource consent processes. Policy 70 (a) cross-references section 6.1.4 of this Plan, which provides some guidance on interpretation of the terms 'noxious', 'dangerous', 'offensive' or 'objectionable'. These terms are commonly used in the regulation of discharges of contaminants into air.
- 5.3.5A Regulatory and non regulatory methods will play a significant part in meeting Objective 39b. Policy 70 5.3.4(e)(i) will help integrate decision making under the Resource Management Act and Building Act and ensure that Regional Council and Territorial Authority requirements are considered at the same time; Policy 70 5.3.4(e)(ii),(iii),(iv) recognises that awareness about effects can lead to people adopting practices which can bring about changes in the quality of the air resource, and that information transfer can be an effective alternative to enforcement as a means of changing people's behaviour. In particular, Policy 70 5.3.4(e)(ii),(iii),(iv) can focus on educating people about the adverse effects associated with the discharges from domestic fuel burners, open fires and outdoor rubbish burning. Many of the problems associated with domestic heating are caused or exacerbated by ongoing use of open fires and small scale solid fuel burners that do not meet the NESAQ emission standards, incorrect use of appliances, and the use of poor quality fuels. While the use of NESAQ compliant burners will improve environmental outcomes and assist the Council in meeting Objective 39b, it is acknowledged that the use of heating appliances which reduce or minimise incorrect operation and can only use clean energy sources or dry fuels, will further improve air quality within Napier and Hastings. Similarly, problems associated with vegetation burning often relate to when and how burning is undertaken. Both these issues can be addressed through education of the public about their burning and heating practices. Policy 70 5.3.4(e)(v) states that the Hawke's Bay Regional Council may choose to provide financial packages to encourage the maximum uptake by households of NESAQ compliant burners and/or clean heating systems.



## ANTICIPATED ENVIRONMENTAL RESULTS

Anticipated Environmental Result	Indicator	Data Source
No offensive or objectionable odour beyond the boundary of any subject property	Number, nature and type of resource consent, and reported incidents of odour	Compliance monitoring Incident monitoring
No noxious or dangerous gases or airborne liquid or other airborne contaminants beyond the boundary of any subject property	Number, nature, type and location of resource consent, and reported incidents of spray drift and other contaminants	Compliance monitoring Incident monitoring
Reduction in number of incidents where smoke, water vapour or other contaminants reduce visibility or affect traffic safety	Visibility monitoring	5 yearly monitoring for input into State of the Environment Report (SER) Incident monitoring
Reduction in occurrences of dust deposition which exceed guidelines beyond subject property boundary	Dust deposition should not exceed the guidelines value of 4 g/m <sup>2</sup> per 30 days	Annual SER update reporting Incident monitoring
Reduction in occurrences of objectionable deposition of particulate matter beyond subject property boundary	The accumulation of particulate matter	Annual SER update reporting Incident monitoring
Ambient Air Quality	NO <sub>2</sub> , SO <sub>2</sub> , CO	Four yearly monitoring
By 1 September 2020 the concentration of PM <sub>10</sub> in any airshed is not exceeding 50 µg/m <sup>3</sup> (24 hour average), more than once in any year <sup>15c</sup>	PM <sub>10</sub>	Compliance monitoring in accordance with Resource Management (National Environmental Standards for Air Quality) Regulations 2004

<sup>15c</sup> The Anticipated Environmental Results predate the 2011 amendments to the Resource Management (National Environmental Standards for Air Quality) Regulations 2004. The amended regulations changed the timeframe for compliance with the ambient PM<sub>10</sub> standard to 1 September 2016 for the Napier Airshed and 1 September 2020 for the Hastings, Awatoto and Whirinaki Airsheds.

## 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<sup>16</sup>.

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

Issue	Guideline
<b>1. Temperature</b>	The temperature of the water should be suitable for sustaining the aquatic habitat.
<b>2. Dissolved oxygen</b>	The concentration of dissolved oxygen should exceed 80% of saturation concentration.
<b>3. Ammoniacal nitrogen</b>	The concentration of ammoniacal (N-NH <sub>4</sub> <sup>+</sup> ) should not exceed 0.1 mg/l.
<b>4. Soluble reactive phosphorus</b>	The concentration of soluble reactive phosphorus should not exceed 0.015 mg/l.
<b>5. Clarity</b>	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.

<sup>16</sup> 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
Porangahau River	200	50
Puhokio Stream	200	50
Taharua Stream	50	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):
- Temperature** – Temperature changes have a significant effect on the functioning of aquatic ecosystems. Particular increases in temperature have adverse effects.
  - 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<sup>17</sup>, 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

<sup>17</sup> 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.

such resource users to establish allowable changes in clarity corresponding to the suspended solids limits where this is required.]

- (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 in catchments other than the Tukituki River catchment<sup>1</sup>**

- (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	<ol style="list-style-type: none"> <li>1. Temperature not changed by more than 3°C, nor raised above 25°C.</li> <li>2. Dissolved oxygen not falling below guideline levels.</li> <li>3. Ammoniacal nitrogen levels not exceeding guideline values.</li> <li>4. Soluble reactive phosphorus values not exceeding guideline values.</li> <li>5. Diversity and quantities of fish species or indigenous invertebrates is maintained.</li> </ol>	<p>Council Water Quality monitoring programme</p> <p>Annual SER monitoring</p>

<sup>1</sup> 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

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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<sup>18</sup> 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.

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<sup>18</sup> 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 <sup>3</sup> /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	1,000		V20:438939
Irongate Stream	At Clarks Weir	100	0	V21:367666
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
Mangateretere Stream	At Napier Road	100	0	V21:438659
Maraekakaho River	At Tait's 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
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
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

**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:
- identified or estimated habitat requirements for a range of species which currently exist in the river
  - the need to maintain water quality at low flows
  - the need to meet recreational requirements
  - Maori cultural and spiritual values
  - the application of consistent methodology when setting and reviewing minimum flows
  - 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:
- It takes account of the natural availability of water within rivers.
  - The November–April period is both the period of lowest flows and the time of greatest water demand in Hawke’s Bay.
  - The seven day averaged flow smooths out short-term variations that can skew low flow estimates.
  - 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 in catchments other than the Tukituki River catchment**

- (1) When considering any application the consent authority must have regard to the following matters:
- the extent to which the change would adversely affect safeguarding the life-supporting capacity of fresh water and of any associated ecosystem and
  - 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.<sup>2</sup>

**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.

**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

<sup>2</sup> 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.

## 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 aquifer system.
- OBJ 43** The maintenance or enhancement of groundwater quality in unconfined or semi-confined productive aquifers<sup>19</sup> 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**

<b>Issue</b>	<b>Guideline</b>
<b>CONFINED, PRODUCTIVE AQUIFERS IN THE HERETAUNGA PLAINS AQUIFER SYSTEM (as shown in Schedule IV)</b>	
<b>1. No degradation</b>	There should be no degradation of existing water quality.
<b>OTHER PRODUCTIVE AQUIFERS</b>	
<b>1. Human consumption</b>	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.
<b>2. Irrigation</b>	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 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 Ruataniwha Plains) is managed under Chapter 5.9.

<sup>19</sup> 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<sup>20</sup> of contaminants, and disregarding the effect of any natural perturbations that may affect the water body.
- (d) **Heretaunga 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 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.

<sup>20</sup> 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.

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.

- (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<sup>3</sup>**

(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

<sup>3</sup> 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<sup>21</sup> 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**

<b>Issue</b>	<b>Guideline</b>
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.

<sup>21</sup> For the purposes of this Plan “**efficient taking**” of groundwater means abstraction by 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.<sup>4</sup>

### 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

<sup>4</sup> 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.

## 5.8 Beds of Rivers and Lakes

### OBJECTIVE

- OBJ 45** The maintenance or enhancement of the natural and physical resources, and use and values, of the beds of rivers and lakes within the region as a whole.

*Refer section 2.2 of this Plan*

### POLICY

#### **POL 79 ENVIRONMENTAL GUIDELINES – BEDS OF RIVERS AND LAKES**

- 5.8.1 To manage the effects of activities affecting river beds and lake beds in accordance with the environmental guidelines set out in Table 12 below.

**Table 12. Environmental Guidelines – Beds of Rivers and Lakes**

<b>Issue</b>	<b>Guideline</b>
<b>1. Fish passage</b>	The activity should be undertaken in a manner that continues to provide for the existing passage of fish past the structure.
<b>2. Fish spawning</b>	In areas of fish spawning the activity should be undertaken in a manner that minimises adverse effects on overall fish spawning patterns.
<b>3. Bed stability</b>	No long term or ongoing acceleration of the rate of erosion or accretion of the bed of a river or lake as a result of any activity in a river bed or lake bed.
<b>4. Habitat</b>	Adverse effects on the habitat of aquatic and terrestrial flora and fauna within the bed of a river or lake should be avoided, remedied or mitigated.
<b>5. Flow regimes</b>	Adverse effects on natural flow regimes should be avoided where this is possible, or remedied or mitigated where avoidance is not possible.
<b>6. Other structures &amp; activities</b>	There should be no significant adverse effects, including by way of destabilisation, on lawful existing structures or activities within the bed of a river or lake.
<b>7. Flood &amp; debris risk</b>	There should be no reduction in the ability of the channel to convey flood flows, and no significant impedance to the passage of floating debris.
<b>8. Damage to property</b>	There should be no damage caused, and no increase in the risk of damage, to any property, including river control works, unless written approval is obtained from any affected parties.
<b>9. Temporary activities</b>	Upon completion of any temporary activity affecting the bed of a river or lake, the bed should as far as practicable be restored to no less than the state it was in prior to the activity taking place.
<b>10. Outstanding natural features</b>	Adverse effects on any outstanding natural features within river and lake beds should be avoided, remedied or mitigated.

#### **Explanation and Reasons**

- 5.8.2 Policy 79 sets out environmental guidelines for the management of activities affecting river beds and lake beds, including structures in, on, under or over river or lake beds, and bed disturbances. The environmental guidelines address the management of both natural and physical resources within river beds and lake beds.

## POL 80 IMPLEMENTATION OF ENVIRONMENTAL GUIDELINES – RIVER BEDS & LAKE BEDS

5.8.3 To implement the environmental guidelines for river beds and lake beds set out in Policy 79 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, the use, maintenance and removal of structures have been allowed 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

5.8.4 Policy 80 establishes that the environmental guidelines for river and lake beds will be used to guide regulation. They have been used in rules, and will be used in resource consent processes.

## POL 80A 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.<sup>5</sup>

### Explanation and Reasons

5.7.4A Policy 80A 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
Fish passage and spawning are able to continue despite the erection or use of a structure or bed disturbance	Abundance of fish in selected locations	Department of Conservation Fish and Game HBRC
Avoidance, remedy or mitigation of adverse effects on natural flow regimes	Natural flow regimes	Flow monitoring programme
No significant adverse effects on existing structures or activities within the bed of a river or lake	Destabilisation of existing structures or activities	Compliance monitoring
No reduction in ability of channels to convey flood flows	River bed cross section profiles	Asset Management Plans and flow monitoring
No damage to property by works in river beds, without owners consent	Reports of damage from river control works	Occasional event reports

<sup>5</sup> NOTE 1: Pol 80A 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 80A 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 Result	Indicator	Data Source
Restoration of river or lake bed following temporary activity	As far as practicable the bed is restored to at least its state prior to activity occurring	Compliance monitoring
Aquatic habitat is maintained at a sustainable level	<ol style="list-style-type: none"> <li>1. Temperature not changed by more than 3°C nor raised above 25°C;</li> <li>2. dissolved oxygen not exceeding guideline values;</li> <li>3. ammoniacal nitrogen levels not exceeding guideline values;</li> <li>4. soluble reactive phosphorous values not exceeding guideline values;</li> <li>5. no loss of fish species or indigenous invertebrates</li> </ol>	Council water quality monitoring programme

## 5.9 Tukituki River Catchment

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### 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:
- 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;
  - Water quality enables safe contact recreation and food gathering;
  - Water quality and quantity enables safe and reliable human drinking water supplies;
  - The frequency and duration of excessive periphyton growths<sup>6</sup> that adversely affect recreational and cultural uses and amenity are reduced;
  - The significant values of wetlands are protected;
  - 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
  - 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<sup>7</sup> that improve and maximise the efficient allocation and efficient use of water.

### 5.9.2 WATER QUALITY POLICIES

#### POL TT1 SURFACE WATER QUALITY LIMITS, TARGETS AND STATE INDICATORS

- In surface water bodies<sup>8</sup> in Water Management Zones 1, 2, 3 and 5 Hawke's Bay Regional Council will (in Table 5.9.1B):
  - Set instream water quality concentration limits and targets<sup>9</sup> 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);
  - Set instream water quality concentration limits and targets<sup>4</sup> for nitrate-nitrogen (NO<sub>3</sub>-N) to protect aquatic fauna from toxicity effects (with the targets to be met by 1 July 2030);
  - Set instream water quality concentration limits and targets<sup>9</sup> for dissolved reactive phosphorus (DRP) and instream targets for periphyton biomass and cover (with the targets to be met by 1 July 2030).
- 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<sup>10</sup> 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.

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<sup>6</sup> Growths that exceed the periphyton limits and targets set in Table 5.9.1B.

<sup>7</sup> The term Community Irrigation Scheme as used in chapter 5.9 of the RRMP is defined in the Glossary.

<sup>8</sup> Excluding Lake Hatuma.

<sup>9</sup> "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.

<sup>10</sup> "Existing" is defined in the Glossary.

3. In surface water bodies<sup>11</sup> 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<sup>12</sup> 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<sup>13</sup> 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:
    - (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<sub>5</sub>) 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<sub>3</sub>-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:

<sup>11</sup> Excluding Lake Hatuma.

<sup>12</sup> "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.

<sup>13</sup> Excluding Lake Hatuma.

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<sup>14</sup> (or an alternative model approved by Hawke's Bay Regional Council<sup>15</sup>) 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<sup>16</sup> 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.

<sup>14</sup> 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.

<sup>15</sup> 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.

<sup>16</sup> A Nutrient Budget is defined in the Glossary.

- (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 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<sup>17</sup> 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<sup>18</sup> 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<sup>19</sup> 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<sup>20</sup>:

<sup>17</sup> 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.

<sup>18</sup> At the time of Plan Change notification, based on two discrete sampling exercises, there were localised exceedances in the Kahahakuri and Mangapohio tributaries.

<sup>19</sup> 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.

<sup>20</sup> 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.

- (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<sup>21</sup> phosphorus losses from the farm property;
  - (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;

<sup>21</sup> 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.

- (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<sup>22</sup> 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:
    - (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

<sup>22</sup> 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.

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<sup>23</sup> 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, Maharaheke, Kahahakuri, Mangaonuku, Papanui sub-catchments.
<i>E. coli</i>	260 <i>Escherichia coli</i> per 100 millilitres for the 1 November to 30 April bathing season (for flows below the median flow). 550 <i>Escherichia coli</i> 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 <i>Escherichia coli</i> per 100 millilitres for the rest of the year (for flows below three times the median flow). The methodology for compliance is a maximum 95 <sup>th</sup> percentile calculated as a minimum of 20 sampling points.
Total Ammoniacal Nitrogen (TNH <sub>3</sub> -N)	99% species protection level for total ammoniacal nitrogen (TNH <sub>3</sub> -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. <sup>19</sup>
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. <sup>24</sup> 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. <sup>19</sup>

<sup>23</sup> 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.

<sup>24</sup> 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<sup>25</sup> 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 <sup>26</sup>	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
<b>Zone 1</b> 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
<b>Zone 2</b> 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					0.015				4.0	
	Tributaries					0.015				1.6	100

<sup>25</sup> 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.

<sup>26</sup> 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 <sup>27</sup>	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
<b>Zone 3</b> Middle Tukituki River and Tributaries above Tapairu Road	Mainstems					0.010				3.0	120 <sup>28</sup>
	Tributaries	120	30	60	50	0.015	3.8	5.6	0.8	1.6	100
<b>Zone 4</b> Upper Tukituki and Waipawa Rivers	All	50	30	60	50	0.004	n/a	1.5	0.150	3.3	120
<b>Zone 5</b> 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.

<sup>27</sup> 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.

<sup>28</sup> 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)
<b>Zone 1</b> 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
<b>Zone 2</b> 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
<b>Zone 3</b> 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)
<b>Zone 4</b> Upper Tukituki and Waipawa Rivers	10% in all naturally hard bottomed streams and rivers (including Tukituki, Waipawa and Makaroro Rivers)
<b>Zone 5</b> 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 95<sup>th</sup> percentile concentration of nitrate-nitrogen (mg  $NO_3-N/L$ ). The 95<sup>th</sup> percentile concentration of nitrate-nitrogen shall be calculated as the 95<sup>th</sup> 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<sup>29</sup>**

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	<i>E. coli</i>	Nitrate-nitrogen	Nitrate-nitrogen Indicator	All other determinands
Guideline value for any aesthetic determinand [Drinking-Water Standards for New Zealand (DWSNZ)]	Maximum concentration of Escherichia coli per 100 millilitres	Maximum 95 <sup>th</sup> percentile concentration of nitrate-nitrogen (mg NO <sub>3</sub> -N /L)	Maximum annual average concentration of nitrate-nitrogen (mg NO <sub>3</sub> -N /L)	All other inorganic or organic determinands of health significance [DWSNZ]
Within guideline	<1	11.3	5.65	Maximum acceptable value (MAV) <sup>30</sup>

**Key for Table 5.9.2:**

**Nitrate Nitrogen:**

- (a) Maximum annual average concentration of nitrate-nitrogen (mg NO<sub>3</sub>-N /L) shall be calculated as the annual average of monitoring results obtained over a period of 5 consecutive years.
- (b) Maximum 95<sup>th</sup> percentile concentration of nitrate-nitrogen (mg NO<sub>3</sub>-N /L) shall be calculated as the 95<sup>th</sup> 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.

<sup>29</sup> These are calculated on a whole of farm property or whole of farming enterprise basis.

<sup>30</sup> 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<sup>31</sup> 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.

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<sup>31</sup> 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 <sup>3</sup> /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 <sup>32</sup>	

**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<sup>33</sup> volume of take, except as provided for in (a)(ii) and (b) below;
    - (ii) A seasonal volume<sup>34</sup> 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.

<sup>32</sup> Groundwater takes located outside of Groundwater Allocation Zones 1 to 3 are Discretionary Activities.

<sup>33</sup> 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.

<sup>34</sup> Seasonal volume is the actual crop water requirement required over a crop's growing season (including any crop rotation).

- (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.
- (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<sup>35</sup> as set in Table 5.9.6<sup>36</sup>;
  - (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.

<sup>35</sup> The High Flow Minimum Flow has been set at the median flow for each Flow Management Site.

<sup>36</sup> These High Flow allocations are additional to those set out in Table 5.9.4

**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 <sup>3</sup> /day)
Tukituki River	At Red Bridge	22,022	2000 <sup>37</sup>	172,800 <sup>32</sup>
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 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)<sup>38</sup> method, documented in Hunt (2012)<sup>39</sup> (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.

<sup>37</sup> 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.

<sup>38</sup> Hunt, B. (2008), Stream depletion for streams and aquifers with finite widths. ASCE Journal of Hydrologic Engineering, Vol. 13, No. 2, 80-89.

<sup>39</sup> Hunt, B (2012), Groundwater analysis using function.xls. Prepared by Civil Engineering Department, University of Canterbury.

**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 <sup>40</sup> 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 <sup>41</sup> 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 <sup>36</sup> 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 <sup>36</sup> 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.

#### **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<sup>42</sup> 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.

<sup>40</sup> 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.

<sup>41</sup> 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.

<sup>42</sup> Such as water user groups or irrigator user groups.

### **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<sup>43</sup>;
  - (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;
  - (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).

<sup>43</sup> Note that taking groundwater as a permitted activity under Rule 53 is still allowed within the Tukituki River catchment.

- (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.