

**BEFORE THE BOARD OF INQUIRY**

**IN THE MATTER** of the Resource  
Management Act 1991

**AND**

**IN THE MATTER** of the Proposed National  
Policy Statement for  
Freshwater Management

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**STATEMENT OF ELIZABETH ALEXANDRA COLERIDGE PEARSON  
ON BEHALF OF CHRISTCHURCH CITY COUNCIL (SUBMITTER NO. 26)**

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## INTRODUCTION

1. **MY** name is Elizabeth Alexandra Coleridge Pearson. I am a Senior Policy Analyst at Christchurch City Council, specialising in environmental/natural resources strategic planning. I have a B.Sc. (Hons) in Biological Sciences from the University of Durham, U.K, and 9 years experience in the field of environmental policy and planning.
2. I have worked for Christchurch City Council (**the Council**) for four years, during which time I have led the development of the Council's *Surface Water Strategy*, provided policy advice for the Council's Area Plans (structure plans for Greenfield developments), been part of the Council's open space planning teams, and presented evidence on behalf of the Council to Environment Canterbury's *Proposed Natural Resources Regional Plan* Hearings Panel.
3. I have read the Proposed National Policy Statement on Freshwater Management (the proposed **NPS**) that was notified in September 2008, and am familiar with the issues, objectives and policies it sets out. I was responsible for preparing the Council's submission and further submission on the proposed NPS.
4. I confirm that I have read and am familiar with the Code of Conduct for Expert Witnesses in the Environment Court Consolidated Practice Note (2006). I have approached the preparation of this evidence in the same way that I would for the Environment Court. Accordingly, my evidence is within the area of my expertise. I have not omitted to consider any material facts known to me that might alter or detract from the opinions which I express.

### Scope of my evidence

5. **MY** evidence will address the following:
  - (a) The fresh water resources in Christchurch City, and their current state;
  - (b) The issues facing the Council in relation to freshwater management and planning approaches being taken by the Council the address these issues.

- (c) The specific guidance a National Policy Statement can provide to decision makers on how to identify and manage the environmental effects of land uses on fresh water resources;
  - (d) General concerns in relation to the NPS;
  - (e) Concerns in relation to some specific provisions of the proposed NPS, and what they may mean for the Council.
6. **MY** evidence focuses on some of the key issues identified in the Council's submissions. I do not repeat the Council's submission in my evidence, or address each provision that was submitted on. However, the Council's concerns, as set out in its submission remain.
7. **MY** evidence is presented on behalf of the Council, and supports the Council's submissions on the proposed NPS. The Council's submission and further submission was authorised by the Chief Executive of the Council.

## **OVERVIEW OF COUNCIL POSITION**

8. **THE** Council generally supports the intent of the proposed NPS, but is concerned that as currently drafted the Objectives and Policies are unclear and will not address the significant issues facing fresh water management in New Zealand today. These concerns were expressed in the Council's submission and further submission to the Board, and are expanded upon in my evidence.
9. **MORE** specifically, some of the Policies and Objectives appear to merely reiterate the RMA provisions. By way of example, Policy 1 in relation to prioritising community and stock drinking water, and Objective 1 in relation to providing for and balancing social, economic, cultural and environmental benefits from the use of water. Such reiteration is of limited use to the Council. Greater benefit would be gained if the NPS:
- (a) Was clearer on what was expected of local authorities (particularly territorial authorities through Policy 3)

(b) Embedded a precautionary approach to consumptive use of freshwater, particularly where decisions are made based on uncertain information on the resources in question and the effects of activities on them, and/or directing that regional councils refuse consents that breach allocation limits set for Freshwater Resources.

**10.** **THE** Council's further submission (Para 1.1) opposes those submissions that sought the withdrawal of the proposed NPS. The Council considers that subject to amendments to provide better assistance to local authorities, the NPS should be retained.

### **CHRISTCHURCH'S FRESH WATER RESOURCE**

**11.** **THE** fresh water resources of Christchurch include:

(c) A network of groundwater aquifers;

(d) Two lakes (Lake Ellesmere/Te Waihora and Lake Forsyth/Wairewa);

(e) Approximately 78km of rivers (the Avon/Otakaro, Heathcote/Opawaho, Styx and part of the Waimakariri and Halswell/Huritini Rivers); and

(f) 2605km of streams and tributaries.

**12.** **THESE** resources are critical to the well-being of Christchurch residents and the environment in which we live. However, they are under increasing pressure from land-use change and intensification, population and household growth, and climate change.

### **Christchurch's groundwater resources**

**13.** **FIVE** aquifers in the Christchurch-West Melton aquifer system lie beneath the urban area of Christchurch (see **figure 1**). These aquifers are fed primarily by seepage from the Waimakariri River (60%) and from rainfall over unconfined aquifers on the lower plains (35%), with a small but significant contribution from seepage from the Paparua stock water race system (5%). Outflows occur as springs on the western edge of the confined aquifers (55%), abstractions for

Christchurch's public reticulated supply and industrial wells (15%), discharges to the seabed (10%), groundwater flows south (10%), and abstraction for irrigation (10%)<sup>1</sup>.

14. **THE** aquifers are of high water-quality, and the groundwater requires no treatment to meet drinking water standards<sup>2</sup>. The Council uses the groundwater to supply water to the urban area of Christchurch (over 340,000 residents, plus local 'wet' industries<sup>3</sup>). Approximately 30% of the City's water supply is sourced from the shallowest aquifer (aquifer 1).
15. **THE** Council faces two key issues in managing this resource:
- (i) Risk to groundwater quality; and
  - (ii) Demand for the resource.
16. **CURRENTLY**, residents within urban Christchurch receive clean, safe, high-quality groundwater that requires no further treatment, affording them some of the best water in the world. However, a portion of groundwater used for the public reticulated supply is abstracted from the semi-confined and unconfined aquifers in the western portion of Christchurch (see **figure 2**). These unconfined and semi-confined aquifers are characterised by thin permeable soils underlain by gravels, which provide little protection against contamination.
17. **AT** the same time Christchurch has a relatively high per capita consumption of water, with an average rate of between 430 and 450 litres per person per day over the last five years. As the population of Christchurch continues to grow (the population is expected to increase by 80,000 over the next 30 years<sup>4</sup>) this rate of consumption will put greater pressure on groundwater resources. Demand for the resource is aggravated by the fact this high-quality groundwater is often used when lower quality water would suffice, for example: for washing cars, hosing driveways, flushing toilets and watering gardens. Hence Council's submission (para 12.4 and 12.5) sought the inclusion of using water 'fit for purpose' into Objective 7 relating to the efficient use of fresh water.

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<sup>1</sup> Environment Canterbury, 2000, *Our Water in the Balance*.

<sup>2</sup> *Drinking-water Standards for New Zealand*, Ministry of Health, 2005.

<sup>3</sup> For example: the processing of leather, wool, meat, poultry, fruit, vegetables, seafood, fish, drinks, cereal food, milk, fertilisers, organic chemicals and the rubber tyre industry.

<sup>4</sup> Christchurch City Council 2009 – 19 Long Term Council Community Plan population projections at 6 August 2008.

18. **IF** the current pattern of consumption continues into the future then, at the expected rate of growth for the city, the abstraction cap (signalled in the *Proposed Natural Resources Regional Plan*) will be exceeded before 2051<sup>5</sup>, as shown in **figure 3**.
19. **THE** Council has developed a *Water Supply Strategy (2009)* that includes goals and options aimed at using groundwater in a more efficient and sustainable manner. The *Water Supply Strategy* was prepared to guide the Council's decision-making, particularly relating to challenges of a growing city with a finite water supply, and to inform the Long-Term Council Community Plan (required by the LGA 2002).
20. **THE** Strategy was developed in conjunction with key stakeholders such as Environment Canterbury and Community Public Health, and a thorough consultation process preceded its adoption by the Council. Proposed options includes improved leak detection and pressure management, the use of rainwater collection, and a community education programme. The community education programme is an ongoing public campaign aimed at raising awareness of what the public can do to reduce water consumption.
21. **THE** Strategy sets out a response for managing the fresh water resource given the expected growth of the city.

### **Christchurch's surface water resources**

22. **THE** lakes of Christchurch are internationally important ecological assets. Lake Forsyth/Wairewa is home to approximately  $\frac{3}{4}$  of the entire New Zealand population of Southern Crested Grebe, which winter on the lake. Lake Ellesmere/Te Waihora is the largest lake in Canterbury, and the largest coastal lagoon in New Zealand, covering some 20,000ha. As many as 38,000 birds have been surveyed on the Lake, which also supports a wide range of plant, fish and invertebrate species, including some endangered and vulnerable species, for example White Heron<sup>6</sup> (*Egretta alba modesta*)

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<sup>5</sup> Assuming a continued average per capita consumption of 435 l/p/d.

<sup>6</sup> 10% of the NZ population winter on Ellesmere/Te Waihora and other local wetlands.

23. **INCREASING** irrigation on the plains, along with rainfall variability, has led to changes in groundwater levels and spring flows. This has resulted in lower flows in most of the rivers and streams that run into Lake Ellesmere/Te Waihora.
24. **IN** February and May this year, a bloom of *Nodularia* (a cyano-bacteria) on Lake Ellesmere/Te Waihora made the Lake unsafe for humans or animal contact (see Environment Canterbury's media releases in **Appendix 1**). Lake Forsyth/Wairewa also experiences algae blooms on a regular basis.
25. **THE** majority of streams and rivers on Banks Peninsula are rain-fed. In contrast, all the major river catchments of the urban City (the Heathcote/Opawaho, Avon/Otakaro and Styx) are spring-fed and hydraulically connected to groundwater. In some cases, springs in the upper reaches of these catchments have stopped flowing where groundwater levels have fallen, through abstraction or lack of recharge, or when land around them has been disturbed by development and earthworks. Examples are the construction of the 'Northwood' subdivision in North-west Christchurch which intercepted and diverted groundwater away from springs, resulting in reduced flow in the Kaputone Stream. Falling groundwater levels have also been attributed to the gradual decline in spring flows in the upper Avon/Otakaro.
26. **SURFACE** water quality varies widely across Christchurch. In general, the water quality of streams on Banks Peninsula is better than that of the rivers and streams in the City, which is variable. The Styx and Otukaikino Creek have generally good water quality, but relatively high bacteria concentrations. The Avon/Otakaro and Heathcote/Opawaho generally have the poorest water quality, reflecting the urbanised nature of these catchments. The majority of monitoring sites in the urban area have recorded sediment concentrations that exceed aesthetic guideline values<sup>7</sup>, and a large number have exceeded guidelines for behavioural impairment in fish. Heavy metals are also found in our urban rivers, and can be toxic to plants and animals at low concentrations. **Appendix 2** contains a snapshot of the water quality of Christchurch's urban rivers.
27. **THE** Council has developed a *Draft Surface Water Strategy* (currently in public consultation), that states Council's commitment to improving water quality,

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<sup>7</sup> 10 mg/l (Bolton-Ritchie et al. 2006).

ecosystem health, and Tangata Whenua, recreation and amenity values associated with surface water resources. To achieve the goals and objectives of the Draft Strategy, the Council will need to improve stormwater management, implement Integrated Catchment Management Plans (ICMPs), and review the land-use and development standards set in the *City Plan* and *Banks Peninsula District Plan*.

28. **INTEGRATED** catchment management, managing surface water (including stormwater) and land-use together, will be central to improving the water quality of surface water in the district. The *Draft Surface Water Strategy* aims to cover all catchments in Christchurch with an ICMP within 15 years. An ICMP for South-west Christchurch has already been completed. It establishes water quality objectives for surface water in the area, and sets out how the Council will meet those objectives (particularly through improving stormwater quality). The Council and Environment Canterbury have worked closely together in the development of the ICMP.

#### **The impacts of climate change on Christchurch's fresh water resources**

29. **CANTERBURY** is expected to become warmer and drier as the climate changes. Temperature increases will most likely cause water temperatures to rise and 'normal' river levels to drop as evaporation rates increase and spring flow is potentially impacted by increased abstraction<sup>8</sup>. Should less rainfall occur on the plains, waterbodies and waterways that depend on rainfall may have less flow, may flow for shorter durations, or disappear completely. The combined effect of temperature increases and falling water levels is likely to negatively impact the ecological values of surface water in Christchurch. The impact of climate change will be different for waterways such as the Waimakariri River which have headwaters in the mountains. For these River increasing rainfall in the mountains would increase the amount of water flowing in the river, and may increase the risk of flooding in areas like Christchurch
30. **SEA** level rise will further increase the risk of flooding in parts of Christchurch, and salt water will intrude further upstream, impacting the Avon/Otakaro and Heathcote/Opawaho River's freshwater ecosystems. A rise in sea level could also impact on coastal groundwater wells by increasing the potential for landward movement of the freshwater/seawater interface.

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<sup>8</sup> Note: if successful the Proposed NRRP should not allow over-abstraction to occur.

31. I note that while the preamble to the proposed NPS refers to the challenges arising from climate change as being nationally significant (page 1, para 3), the proposed NPS contains little specific guidance for local authorities about how to manage the effects of climate change. In this regard, it is not clear whether Policies 3 and 5 would implicitly require the Council to consider such matters fully when preparing a plan change.
32. **IN** this regard, I note that climate change is but one matter that could arguably require more consideration under the proposed NPS. However, no guidance is given about to what extent, it is required to be considered. As raised in the Council's submission the objectives of the proposed NPS are not clear.

## **THE PROPOSED NATIONAL POLICY STATEMENT**

### **Existing specific strategies**

33. THE proposed NPS needs to be considered against the policies and plans that are already in existence in relation to the protection and management of freshwater resources. Many of these plans have been through public consultation processes, and are specific to the issues facing each region. A large body of policies (statutory and non-statutory), plans and programmes relating to fresh water management has been developed by local authorities. For this reason the proposed NPS needs to be clear and specific about what it is expecting local authorities to do.
34. **IN** Christchurch, Environment Canterbury, the City Council and the community have already invested considerable resources into managing fresh water resources. Environment Canterbury has:
- A *Regional Policy Statement* that sets objectives for enabling the use of fresh water while safeguarding the life supporting capacity of the resource, preserving natural character, protecting habitats, and maintaining and enhancing amenity values.
  - Notified a *Proposed Natural Resources Regional Plan* (Proposed NRRP), which contains objectives, policies and rules, governing water quality, quantity, beds and margins of lakes and rivers, and wetlands. The

Proposed NRRP already contains water quality standards and minimum flow levels for fresh water resources.

- *Erosion and Sediment Control Guidelines*, aimed at reducing sediment discharges during construction and subdivision.
- A *Pollution Prevention Guide*, aimed at improving environmental management practices in businesses.
- An 'Environment Enhancement Fund' which allocates money to selected community projects on an annual basis, including funds for riparian planting and fencing along waterways.

**35.** The City Council has:

- A *City Plan* and *Banks Peninsula District Plan*. Both Plans identify water use and quality issues and contain objectives and policies relating to fresh water management.
- A *Draft Surface Water Strategy*, that states Council's commitment to improving water quality, ecosystem health, and establishes an ICMP programme for the City.
- A *Water Supply Strategy* that commits Council to a public education programme promoting efficient water use, and to investigating different options (including leak reduction and pressure management) to reduce and manage demand for potable water.
- A number of *Asset Management Plans* relating to fresh water management – for water supply, stormwater and wastewater infrastructure.

**36.** **ALL** of these policies, plans and strategies have been prepared following consultation with key stakeholders and input from the community. They are specifically targeted to protecting the water resource in Christchurch, Banks Peninsula and the Canterbury Region. Further detail on the regional and local planning framework can be found in **Appendix 5** (Regional planning) and **Appendix 6** (Local Christchurch planning). These Appendices summarise the

current fresh water planning in Christchurch, and the difference and integration between the regional and local planning framework.

## HOW THE PROPOSED NPS WOULD IMPACT FRESHWATER MANAGEMENT IN CHRISTCHURCH

### The Council's RMA (1991) responsibilities

37. The Council's responsibilities with regard to fresh water management are primarily described in the RMA and LGA (2002). With regard to managing land-use, the Council has obligations under the RMA to ensure that fresh water resources are sustainably managed for present and future generations. In Christchurch, land-use is controlled through the *City Plan* and *Banks Peninsula District Plan*<sup>9</sup>. **Appendix 6** summarises the current City and District Plan provisions relevant to fresh water management.
38. **TO** implement the proposed NPS, the Council would need to notify plan changes that give effect to the changes to the RPS stipulated in Policy 1, and include the rules stipulated in Policy 3.
39. **AS** outlined in the Council's submission (paragraphs 15.1 to 15.5 and 17.1 to 17.4) both Policy 1 and Policy 3 lack detail, so the impact on the Council's City and District Plan is hard to gauge. My initial assessment of the changes necessary is summarised in **Appendix 3**. In particular, the impact of Policy 1 (and therefore the extent of the changes that would need to be implemented by the Council) depends on how Policy 1 of the proposed NPS is interpreted in the Regional Policy Statement, and the outcome of the RPS change or variation process. The District Plans already contain provisions relating to Tangata Whenua values, although changes might be needed depending on the RPS change, particularly to the City Plan. Both the City and District Plan contain objectives and policies that seek to protect freshwater resources (required by Policy 1h), and manage infrastructure provision (Policy 1i), but again changes may be needed depending on the RPS change pursuant to Policy 1. The biggest change required would be in implementing Policy 1i as neither the City or District Plan contain provisions relating to managing demands for fresh water. This function has been the responsibility of the regional council, Environment Canterbury.

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<sup>9</sup> Christchurch City Council has two district plans as a result of amalgamation with Banks Peninsula District Council in 2006.

40. **THE** requirement to notify a plan change or variation to give effect to Policy 3 is absolute. The Council would be required to notify a plan change to give effect to the RPS change/variation (Policy 1) regardless of whether the district plan contains provisions which already give effect to the RPS. In this regard, policy 3 goes further than section 73(4)(a) of the RMA. Secondly, this Policy only allows 40 working days for the Council to notify a proposed change to the City and District Plans to give effect to the RPS change pursuant to Policy 1. As explained in the Council's submission (para 17.2), the Council views 12 months as a more achievable, but still tight, timeframe.

41. **TO** amend the district plans the Council would first have to review the current District Plan objectives and policies in light of the RPS change and Policy 3 of the proposed NPS. The Council would have to define '*industry best practice*' in relation to the conditions stipulated in Policy 3:

- “(i) protection against degradation of the quality of fresh water of Freshwater Resources (including through the management of activities giving rise to stormwater discharges); and*
- (ii) sustainable management of demands on fresh water in a manner which has regard to available supply of fresh water and adverse effects, both individual and cumulative; and*
- (iii) integrated management of the effects of Land-use Development and discharges of contaminants on the quality and available quantity of Freshwater Resources.*

Finally the Council would need to prepare a section 32 assessment, and notify a plan change. Although work on the District Plan changes could start before the RPS change pursuant to Policy 1 is made operative, 40 days will not be enough time to notify a well thought-through plan change.

42. **FURTHER**, the requirement in Policy 3(b) to include rules in the plan change which require land-use and subdivision consent to include conditions is vague and uncertain for a number of reasons.

43. **AS** currently drafted, Policy 3(b) requires the conditions stipulated to be included in all relevant land-use and subdivision consents *after* the commencement of the NPS. As drafted, the NPS allows 12 months for the preparation of a change to

the regional policy statement, followed by a 40 working day timeframe for notifying a change to the city plan. This time allowed to change the regional policy statement and city plan would all be *after* commencement of the NPS.

44. **ON** its face, Policy 3 requires the conditions to be imposed on all land use and subdivision consents granted after the commencement of the NPS. However, many land use and subdivision consents will be granted prior to the city plan change becoming operative (or otherwise being beyond challenge). The NPS could be interpreted to require Councils to "retrofit" conditions of consent once the consent has been granted, or perhaps impose conditions in anticipation of the plan change.
45. **THE** Council considers that either approach would be contrary to section 108 of the RMA. In particular, the Council does not have an open-ended discretion to impose any conditions it wishes on consents. Any conditions imposed must be for a resource management purpose, and fairly and reasonably relate to the activity that is authorised by the consent. They could also not be so unreasonable that no reasonable planning authority would have imposed them. In my view, "retrofitting" or anticipating the conditions that could be imposed once the city plan has been amended to give effect to the regional policy statement would not be reasonable.
46. **I** also note that section 128 of the RMA provides a limited ability to review conditions of consent. Sections 128(1)(b) and (ba) explicitly allow for the review of water, coastal or discharge permits when:
- (g) a regional plan becomes operative which sets rules relating to maximum or minimum levels or flows or rates of use of water, or minimum standards of water quality (when the regional council considers that it is appropriate to review the conditions of the permit in order to enable the levels, flows, rates or standards set by the rule to be met); and
  - (h) relevant national environmental standards have been made.
47. **HOWEVER**, there is no corresponding provision which allows for the review of a land use consent (or water, coastal or discharge permits) when a national policy statement has been made.

48. **IF** the intention of Policy 3(b) is that the conditions would need to be applied to those land-use and subdivision consents granted after both the commencement of the NPS *and* after the plan change/variation is operative, this should be clarified. This uncertainty could be avoided if Policy 3(b) was amended to require conditions on all relevant consents granted after the plan change to give effect to the NPS becomes operative.
49. **THE** conditions listed in Policy 3(b) also appear to confuse matters that the consent authority should consider when taking into account the plan change to give effect to the regional policy statement, rather than being matters that are best addressed as conditions on resource consents. By way of example, Policy 3(b)(ii) refers to the imposition of conditions in relation to the "sustainable management of demands on fresh water in a manner which has regard to available supply of fresh water and adverse effects, both individual and cumulative". Matters such as the sustainable management of fresh water, and considerations of adverse effects should be considered by the consent authority when deciding whether to grant consent.

### **The Council's LGA (2002) Responsibilities**

50. The LGA 2002 requires local authorities to prepare Long-Term Council Community Plans, which defines the activities of the Council, the services it will provide communities, and the capital and infrastructure investment programme that supports the City's ongoing development. It is important that strategic resource management planning is not carried out in isolation from infrastructure, asset and financial planning under the LGA 2002.
51. **THE** proposed NPS contains many references to 'integrated land-use planning', and the need to co-ordinate and sequence infrastructure provision. I support this intent. However, the Council's submission<sup>10</sup> sought clarification that Policy 5 did not require territorial authorities to provide water, wastewater and stormwater infrastructure whenever, and wherever, demanded by land developers. Policy 5 provides:

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<sup>10</sup> Paragraph 19.3 of the Council's submission.

*"When preparing a district plan or variation or change to give effect to Policy 3, every territorial authority must consider the following:*

*(c) The importance of ensuring that the planning for and implementation of infrastructure for water supply, wastewater treatment and stormwater are undertaken –*

*(i) in an integrated manner; and*

*(ii) at a rate that, as a minimum, keeps pace with the rate of Land-use Development".*

- 52. LAND-USE** Development, managed through District Plan zoning under the RMA impacts the delivery of infrastructure and Council services, managed through Long-Term Council Community Plans. In its LTCCP, the Council defines those activities it will undertake, the level of service it will provide, and the capital and infrastructure investment programme that supports the City's ongoing development.
- 53. IF** water, wastewater and stormwater infrastructure was required wherever and whenever demanded by Land-use Development, it would not allow the Council to manage the build and operation of infrastructure in the most efficient manner, and as agreed with the community through the LTCCP.
- 54. AN** example is Greenfield development around Christchurch. In 2007, the Greater Christchurch Urban Development Strategy was adopted by the Council, Environment Canterbury, NZ Transport Agency, Waimakariri District Council and Selwyn District Council. This Strategy identified that urban growth in the area would be accommodated in a mixture of Greenfield and 'infill' development.
- 55. GREENFIELD** development in Christchurch is limited by the Waimakariri River to the North, to the East by the sea, and to the South by the Port Hills (a recognised Outstanding Natural Landscape in the City Plan. The main options for Greenfield development are in the South-west, North-west and North-east of the City. The SW and NW were selected as the preferred option.

56. **THE** provision of infrastructure, particularly water, wastewater and stormwater infrastructure, was a major component of the rationale in selecting NW and SW Christchurch as the preferred Greenfield development areas. Upgrading the existing water, wastewater and stormwater infrastructure in the NW and SW is more cost-effective, than the NE.
57. **THE** trunk wastewater system servicing Christchurch experiences capacity issues during extreme wet weather events, requiring the discharge of dilute untreated wastewater into the Avon/Otakaro and Heathcote/Opawaho River systems at times of high stormwater flow. The current system requires upgrading to improve this situation. The planned series of upgrades creates the opportunity to generate additional capacity for future growth in the SW and NW of the City, at relatively little additional expense.
58. **AN** economic sustainability model was developed to analyse the financial impact on Council of different urban growth patterns. It identified that development on 'three front's – NW, SW and NE, would cost the Council an additional \$547,000,000 in capital expenditure alone, to developing on 'two fronts (NW and SW).
59. **THE** proposed NPS must be clear that water, wastewater and stormwater infrastructure, should be planned and implemented in an integrated manner, but must not be driven by Land-use Development. Land-use Development should be planned where it is most efficient to provide infrastructure. Policy 5 could be clarified by referring to 'permitted' Land-use Development.
60. **THE** Greater Christchurch Urban Development Strategy involved a great deal of time, effort and resources. It took four years. It is not possible to carry out such a process in a short timeframe. It is for this reason that any practical effect of the NPS on integrated land use development is limited. The NPS requires implementation within very short timeframes. The type of integrated development that was addressed in the Strategy could not occur within the 40 working day time frame required by Policy 3.

## **GUIDANCE FOR DECISION-MAKERS**

61. **AN** NPS is necessary to guide and direct local authorities and the Environment Court, to improve decision-making, and ensure freshwater resources are effectively managed for current and future generations.
62. A key issue facing fresh water management that the NPS could address is the cumulative effects of water takes or discharges (particularly non-point discharges). For example, the many individual groundwater withdrawals on the Canterbury plains are impacting on the flows of rivers and streams feeding into Lake Ellesmere/Te Waihora.
63. **AS** stated in the Council's further submission<sup>11</sup> the proposed NPS contains no direction on managing cumulative effects. The setting of water quality standards and flows envisioned by Policies 1 and 2 of the proposed NPS will assist by establishing environmental limits (an approach already adopted by Environment Canterbury in the Proposed Natural Resources Regional Plan), however, the proposed NPS does not direct local councils to avoid the impact of cumulative effects on water quality. The inclusion of a policy on cumulative effects would support local council's efforts in this area.
64. **DECISIONS** regarding fresh water management are also often done with limited scientific certainty/ incomplete information on the nature of the resource and the effects of activities on that resource. As identified in the Council's submission<sup>12</sup>, the proposed NPS provides no direction on how decisions should be made in the face of uncertainty.
65. **MANAGING** uncertainty and cumulative effects will be crucial to achieving the stated objectives of the NPS, and the consequences of getting it wrong are large. For example, if Christchurch's groundwater aquifers 1 and 2 (the source of approximately 50% of the City's water supply) became contaminated with both nitrogen and chemicals from land development, then the treatment required<sup>13</sup> for remediation would cost at least \$200 /mlitres<sup>14</sup>.
66. **THE** proposed New Zealand Coastal Policy Statement (2008) includes provision for taking precautionary approach in face of uncertainty (Policy 5 of

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<sup>11</sup> Paragraphs 4.1 to 4.4 of the Council's further submission.

<sup>12</sup> Paragraph 2.4 of the Council's submission.

<sup>13</sup> This includes estimated costs of \$117/m litre for reverse osmosis to address nitrates and \$126/m litre for ozone/granular activated carbon (GAC) to address chemicals.

<sup>14</sup> MWH 2005 . This estimate excludes the cost of reconfiguring and engineering the public water supply network to allow treated supply.

the NZ CPS). I consider that a similar approach is warranted in relation to fresh water

## **PRIORITY FOR DOMESTIC WATER SUPPLY**

**67. AS** discussed above Christchurch's water supply comes from ground water sources. The impact on this source is of importance to the Council and the community more generally.

**68. POLICY 1(i)(ii)** provides that every regional policy statement must be amended to specify objectives, policies and methods which:

*"Guide and direct regional and district plans (including considerations for determination of resource consent applications and notices of requirement) to effectively manage demands for fresh water, including demands arising from Land-use Development and discharges of contaminants, in a manner which –*

*(ii) Provides priority for reasonably foreseeable domestic water supply, over other competing demands, provided that appropriate demand strategies are established for such supply;"*

**69. THE** Council's submission (para 15.3) raised concerns about how Policy 1(i)(ii) might be applied in practice. In particular, the Council is concerned about the proviso in this Policy in relation to the establishment of "*appropriate demand strategies*". The reference to "*appropriate demand strategies*" is not defined or limited in any way in the proposed NPS.

**70. THE** section 32 evaluation identifies the impact of establishing environmental flows and water levels in lakes, wetlands and groundwater aquifers. The evaluation makes the assumption that "*overall, stronger provisions for imposing environmental flows will result in reduced levels of water for consumption*" (page 45). It continues that "*there is the potential for a reduced amount of water to be available for domestic use. The economic cost of this is unclear, although the social cost in terms of imposing water restrictions could be significant. ... The frequency of these restrictions may increase if environmental flows and water levels are introduced that reduce the amount of water able to be taken*" (page 45).

71. **ACCORDINGLY**, the section 32 evaluation recognises that an impact of the NPS could be restrictions on domestic water use.
72. **HOWEVER**, the section 32 evaluation, and the proposed NPS are silent about what "appropriate demand strategies" would be. Nor what priority is according to domestic water use in the event that an appropriate demand strategy does not exist. It is also not clear who would be responsible for developing a strategy, or resolving any conflicts between strategies (should more than one exist). It is also not clear who decides whether a strategy is "appropriate".
73. **THE** Council is already required to carry out a detailed process for developing a 'water services assessment', under section 125 of the LGA 2002. It is not clear whether "appropriate demand strategies" are the same as, or different from, an assessment of water services which territorial authorities are required to prepare under section 125 of the LGA 2002.
74. **SECTION** 125 of the LGA 2002 requires the Council (and all other territorial authorities) to assess the provision of water services within the city. This assessment occurs as part of the LTCCP (or if not by way of the LGA 2002 special consultative procedure).
75. **SECTION** 126 of the LGA 2002 sets out the information that is required to be included in an assessment of water services. The listed matters include (among other matters):
- (i) An assessment of any risks to the community relating to the absence in any area of a water supply;
  - (j) A statement of current and estimated future demands for water services within its district and a statement of any issues relating to:
    - (i) the quality and adequacy of the supply of drinking water for each community; and
    - (ii) the health and environmental impacts of discharges of stormwater and sewage arising from the current and future demands;

- (k) a statement of options to meet the current and future demands identified, and an assessment of the suitability of each option for the district and each community within it;
- (l) the territorial authority's proposals for meeting the current and future demands, including proposals for any new or replacement infrastructure.

**76. SECTION** 128 of the LGA 2002 then sets out further details about what the Council must consider in making its assessment of current and future demands for water services. These matters include the full range of options and their environmental and public health impacts, including (but not limited to):

- (m) On-site collection and disposal;
- (n) Grey water and stormwater reuse or recycling
- (o) Demand-reduction strategies, including public education, information, promotion of appropriate technologies.

**77. THE** water assessment required by the LGA, and as summarised above, is comprehensive. It is a detailed and specific process. This process is not arbitrary. It is subject to public consultation.

**78. EARLIER** in my evidence I discussed the *Water Supply Strategy* that the Council has prepared. This strategy is intended to guide the Council's future asset management and planning processes for the public water supply activity. Its aim is to the efficient, effective and sustainable management of the Council's water supplies for the next 30 years.

**79. BY** comparison with the section 125 LGA 2002 process, the reference in the proposed NPS to "appropriate demand strategies" is vague and uncertain. No detail is given about what such a strategy would be, how it would be developed and by who. If it is a separately prepared strategy from that under section 125 of the LGA, it is not clear how the two would inter-relate.

- 80.** **POLICY** 1(i)(ii) of the proposed NPS could potentially cut across the Water Supply Strategy. It could potentially result in a situation where domestic water supply was not accorded priority due to the Water Supply Strategy being considered "inappropriate". Such an outcome could result in commercial and industrial uses being accorded priority over the domestic water supply needs of the community.
- 81.** I also note that section 14(3) of the RMA accords priority to the reasonable domestic needs of an individual (and also an individual's animals), subject to the effects of that use. The proposed NPS does not recognise this exception, and has the potential to cut across this provision of the RMA.
- 82.** **IN** my view, it is not necessary to introduce the concept of "appropriate demand strategies" to the NPS, and then into the regional and city / district plans. If a strategy needs to be referenced in Policy 1(i)(ii), I consider it would be more appropriate to refer to a water supply assessment prepared under the LGA 2002.
- 83.** **HOWEVER**, overall, it is the Council's preference that Policy 1(i)(ii) be amended so that it accorded priority to the reasonably foreseeable community water supply needs over competing demands.

## **SUMMARY**

- 84.** **OVERALL**, I consider that there is a benefit in having an NPS on freshwater. However, as drafted, the proposed NPS is vague and uncertain in some areas, particularly in its requirements on territorial authorities. It is not clear that the objectives of the NPS would be achieved.
- 85.** **DESPITE** these concerns, the Council's preference is for the NPS to be amended to provide clear direction about what should be included in district plans, guidance on managing cumulative effects and making decisions where there is uncertainty information on the resource and the effects of an activity on that resource. The NPS should also clearly prioritise reasonably foreseeable community water supply over other completing demands.

Elizabeth Pearson

**Elizabeth Alexandra Coleridge Pearson**

**3 June 2009**

**Appendix 1. Environment Canterbury's media releases on algal blooms in Lake Ellesmere/Te Waihora, February and May 2009.**

**Lake Ellesmere/ Te Waihora health warning blue-green algal bloom**

**Tuesday, 17 February 2009**

Environment Canterbury (ECan) and Community and Public Health are warning people to avoid contact with Lake Ellesmere/Te Waihora, Banks Peninsula, due to algal bloom.

Lake water monitoring shows high levels of the toxin-forming algae *Nodularia*. "The levels of algae indicate that the lake is unsuitable for recreational use or drinking until further notice," said Dr Alistair Humphrey, Medical Officer of Health.

Drinking water containing these toxins can be fatal to stock, fish, birds and dogs.

People using the Little River Rail Trail for cycling or walking and nearby recreational areas are warned to avoid contact with the lake water.

Lake Ellesmere/Te Waihora is less frequently affected by blue-green algal blooms than the nearby, smaller Lake Forsyth/Te Wairewa.

Human reactions to blue-green algal blooms include allergic reactions, asthma, eye irritations, rashes and blistering around the mouth and nose and gastrointestinal disorders. Boaties and people fishing are advised to exercise caution.

Shellfish from around the lake could be harmful to health and should be avoided, Dr Humphrey said.

Selwyn District Council has been advised of the bloom and will be placing signs.

People should seek help from their GP if they have ingested lake water or become unwell.

**Warning to users of Lake Ellesmere/Te Waihora and the Selwyn River**

**Friday, 15 May 2009**

Environment Canterbury is warning recreational users and dog owners that potentially harmful cyanobacteria are still present in Lake Ellesmere/Te Waihora and the Selwyn River.

Results from samples collected last week indicate that the levels of cyanobacteria exceed Australian and draft New Zealand guidelines for recreational waters in some areas of the lake.

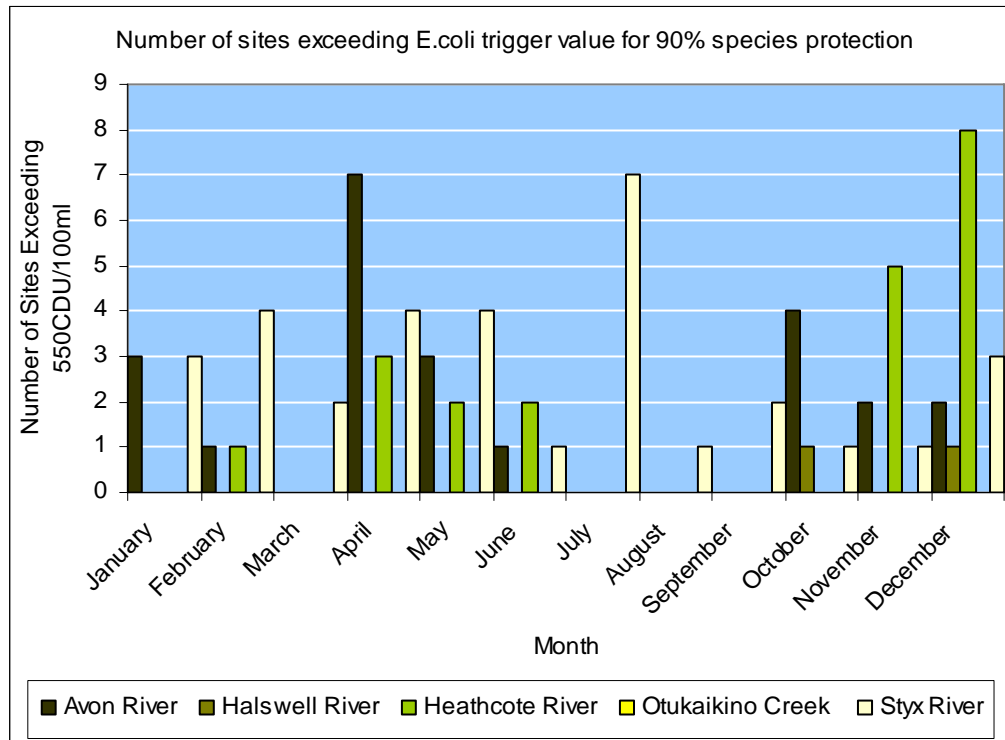
Inspection of the Selwyn River showed that the toxic algae *Phormidium* was still present in part of the river, particularly the lower reaches below State Highway One.

Warnings of toxic algae are also still in place for Lake Forsyth/Wairewa and Lake Rotorua (Kaikoura).

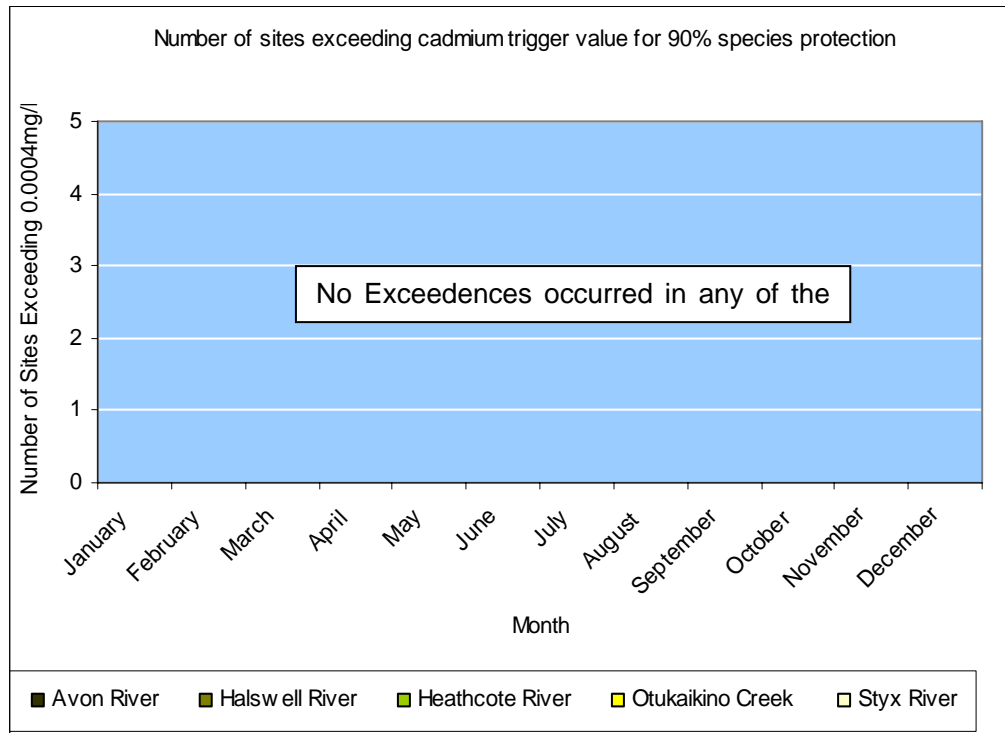
Dog owners should be particularly wary and keep their dogs away from these areas until the algal levels have reduced.

## Appendix 2: The 2008 water quality of Christchurch's main rivers.

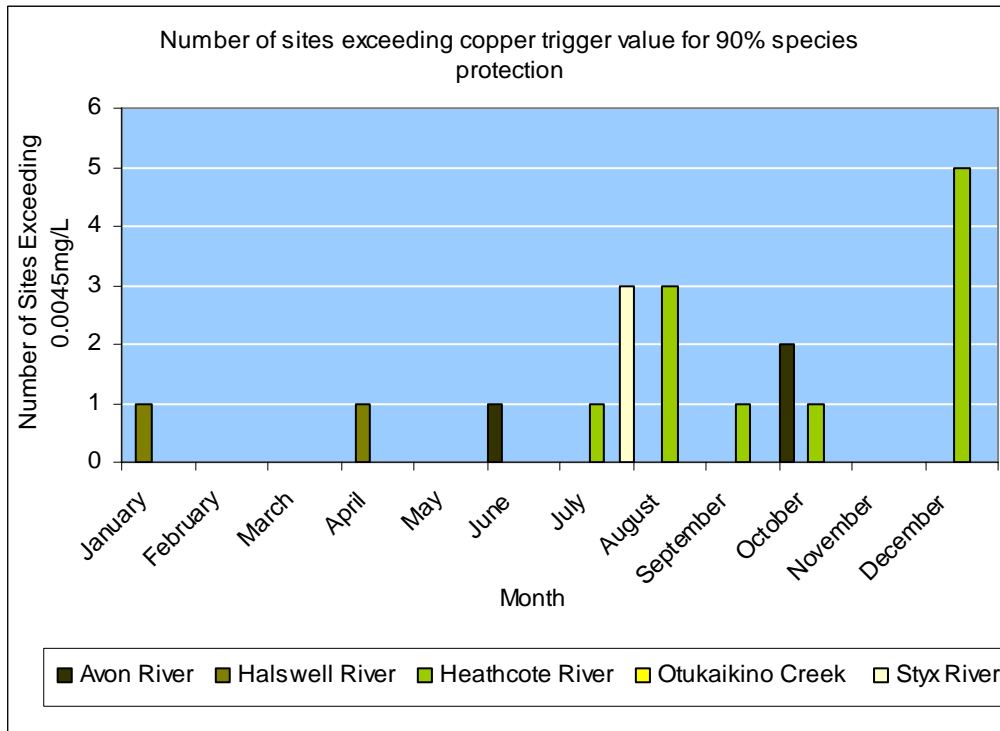
### E.Coli:



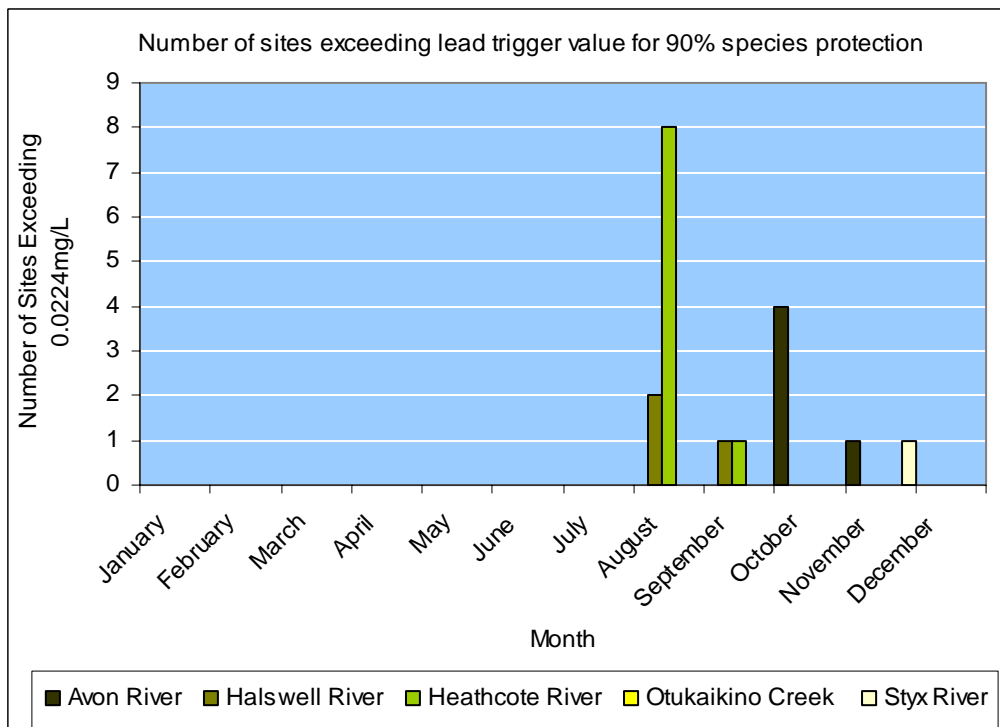
### Cadmium:



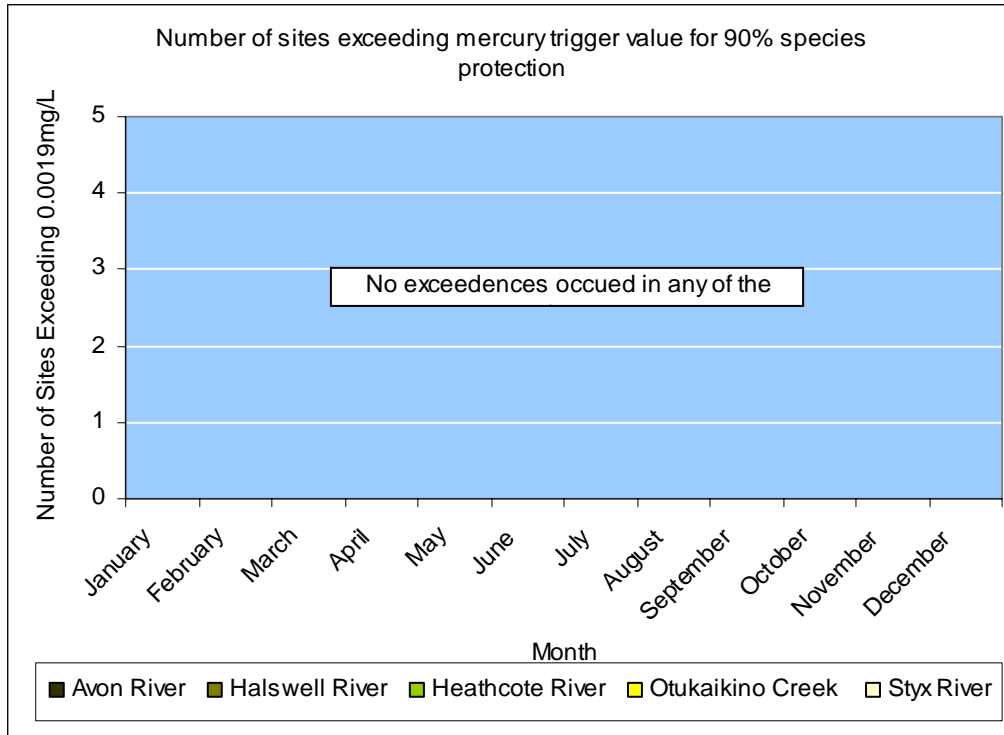
Copper:



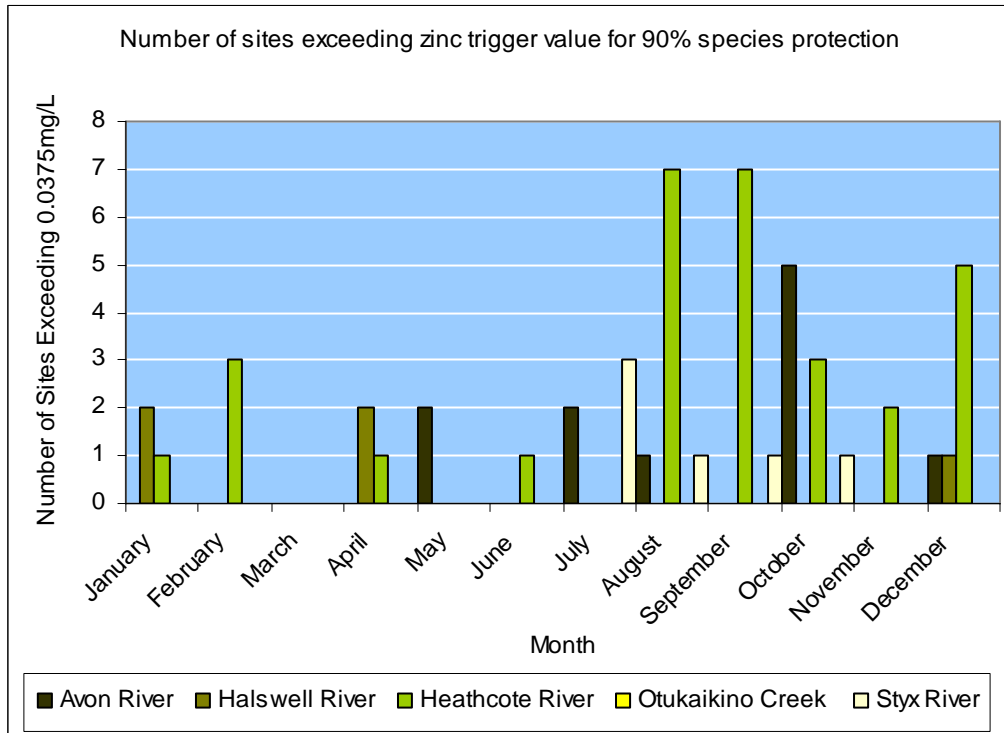
Lead:



Mercury:



Zinc:



**Appendix 3. Summary of initial Gap Analysis between proposed NPS and the City and District Plan provisions.**

<b>NPS Policy</b>	<b>Requirement</b>	<b>Changes needed to the City Plan and Banks Peninsula District Plan</b>
<b>1 (f)</b>	Direct district plans in the recognition of Tangata Whenua values with respect to fresh water.	Both the City and District Plan already contain objectives and policies relating to Tangata Whenua values, however, changes may be needed depending on whether the RPS provisions are changed as a result of proposed NPS policy 1.
<b>1 (h)</b>	Direct district plans to effectively manage Land-use Development to control adverse effects of the discharge (?) on fresh water.	Both the City and District Plan already contain objectives and policies that seek to protect fresh water resources, however, changes may be needed depending on whether the RPS provisions are changed as a result of proposed NPS Policy 1.
<b>1 (i)</b>	Direct district plans to manage demands on freshwater arising from land-use development and discharges of contaminants.	Neither the City or District Plan currently contain provisions relating to managing demands on fresh water, changes will be needed.
<b>1 (j)</b>	Direct district plans to ensure integrated management of the effects of Land-use Development by encouraging co-ordination and sequencing of infrastructure and controlling adverse effects.	Both the City and District Plan contain objectives and policies relating to efficient infrastructure provision, however, changes may be needed depending on whether the RPS provisions are changed as a result of proposed NPS Policy 1.
<b>3 (a)</b>	The district plans must give effect to the RPS changes stipulated in Policy 1.	Dependent on RPS changes made.
<b>3 (b)</b>	The district plans must include rules that require relevant land-use and subdivision consents to include conditions for (i) protecting against degradation of freshwater quality (ii) sustainable management of demands on freshwater (iii) integrated management of the effects of Land-use Development and discharges. To be achieved through industry good practise.	The policy is very unclear, but as currently written the proposed NPS would require the Council to notify a Plan Change that included rules (and presumably objectives and policies to lead to them) that require the conditions stipulated. It is uncertain how the conditions stipulated would be different from regional council functions, and what exactly the proposed NPS is asking territorial authorities to implement.
<b>3 (c)</b>	The district plans must include rules that require all land-use and subdivision consents to require monitoring and reporting on 3 (b) conditions.	Monitoring and reporting on the proposed NPS Policy 3 (b) conditions would needed to be incorporated in the City and District Plan.

## **Appendix 5: The Regional Policy and Planning Framework**

### **Regional Policy Statement**

Canterbury's Regional Policy Statement (RPS) was adopted in 1998. It provides an overview of the resource management issues of Canterbury and sets out how natural and physical resources are to be managed in an integrated way with the aim of sustainable management.

Chapter 5 of the RPS identifies matters of resource management significance to Tangata Whenua: water quality; water quantity; harvesting of mahinga kai; consultation and ownership.

Chapter 6 provides for the relationship of Tangata Whenua with natural resources.

Chapter 8 of the RPS (Landscape, Ecology and Heritage), identifies that the integrity and distinctive character of wetlands, lakes, rivers, indigenous flora and fauna, heritage and Tangata Whenua values are under threat. It sets the objectives of protecting and enhancing wetlands, natural features and landscapes, indigenous biodiversity, ecosystems and vegetation, and historical sites.

Chapter 9 of the RPS (Water), identifies competing demands for water, land-use effects on water quantity and quality as the key issues facing the region's water. It sets the objectives of:

- Enabling people to benefit from: use of water; use of land where it affects the flows and levels of water bodies; water quality.
- While: safeguarding existing drinking water and sources of mahinga kai; safeguarding the life supporting capacity; protecting wahi tapu; preserving the natural character of lakes, rivers, natural features and landscapes from inappropriate use and development; protecting the habitat of trout and salmon; and maintaining and enhancing amenity values.

Chapter 10 of the RPS (Beds of Rivers and Lakes and their Margins), identifies that the effects of land-use on natural character, biodiversity, Tangata Whenua, amenity, and recreation values is a key issue facing the region's rivers and lakes. Other issues include: the effect of land-use on the flood-carrying capacity of rivers; effects of land-use on the stability and performance of structures within river beds and margins; and public access needs and conflicts. The Chapter sets the objectives of:

- Protection and enhancement of significant habitats, natural character, Tangata Whenua values, landscapes, amenity and recreation values.
- Protection of the flood-carrying capacity of river systems.
- Protection of the stability and performance of essential structures in river beds and their margins.
- Achievement of improved and safe public access.

The RPS is currently under review. The key resource management issues being considered through the review process are:

- a) The integrated management of natural and physical resources.
- b) The strategic integration of infrastructure with land-use.
- c) Responses to climate change.
- d) Urban growth (including the Urban Development Strategy and regional Settlement and transport policies).
- e) The sustainable management of water.

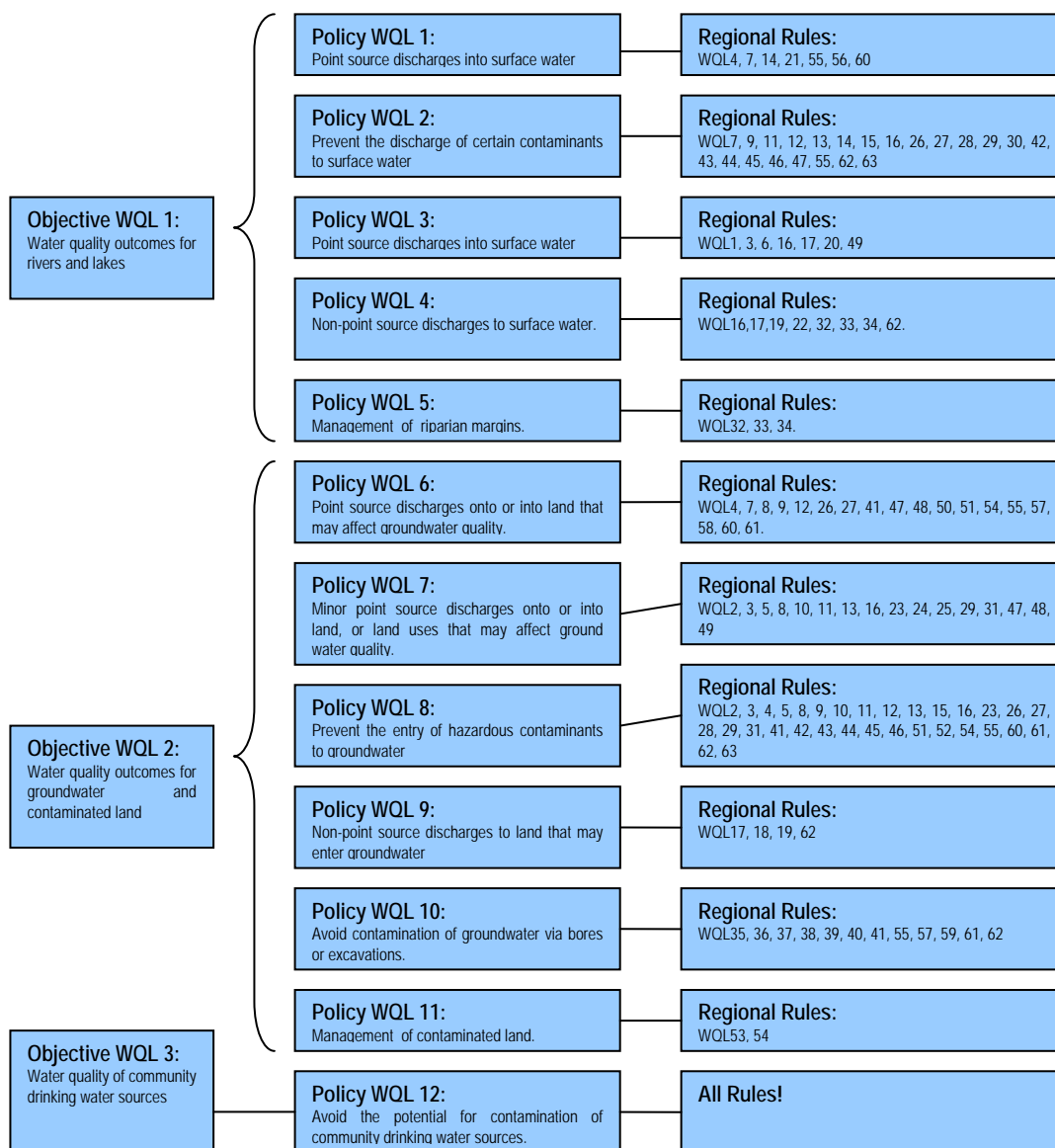
- f) Wintertime air quality.
- g) The protection of landscapes.
- h) The decline of indigenous biodiversity
- i) Protection of versatile soils.

**Proposed Natural Resources Regional Plan**

The proposed Natural Resources Regional Plan (PNRRP) was notified in 2002. Hearings are currently underway. Several chapters relate to fresh water: Chapter 4 (Water Quality); Chapter 5 (Water Quantity); Chapter 6 (Beds and margins of lakes and rivers); Chapter 7 (Wetlands). Figures A - E below summarise the objectives, policies and rules relevant to fresh water

**Chapter 4: Water Quality.** Chapter 4 identifies the water quality issues for Canterbury. It establishes water quality objectives, policies and rules, for different types of rivers, lakes, aquifers and sources of community drinking water in the region.

*Figure A. The objectives, policies and rules of PNRRP Chapter 4 (Water Quality)*

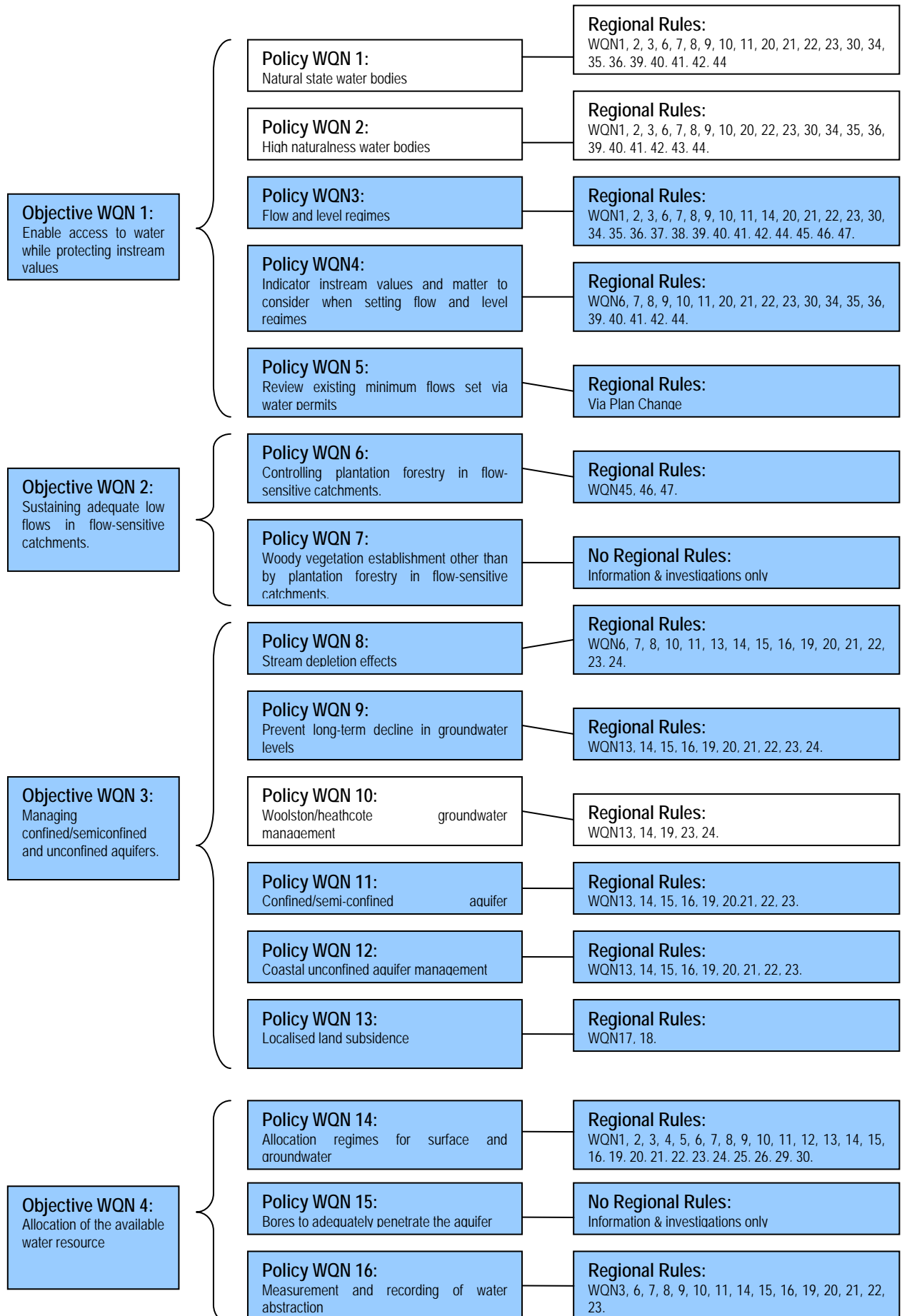


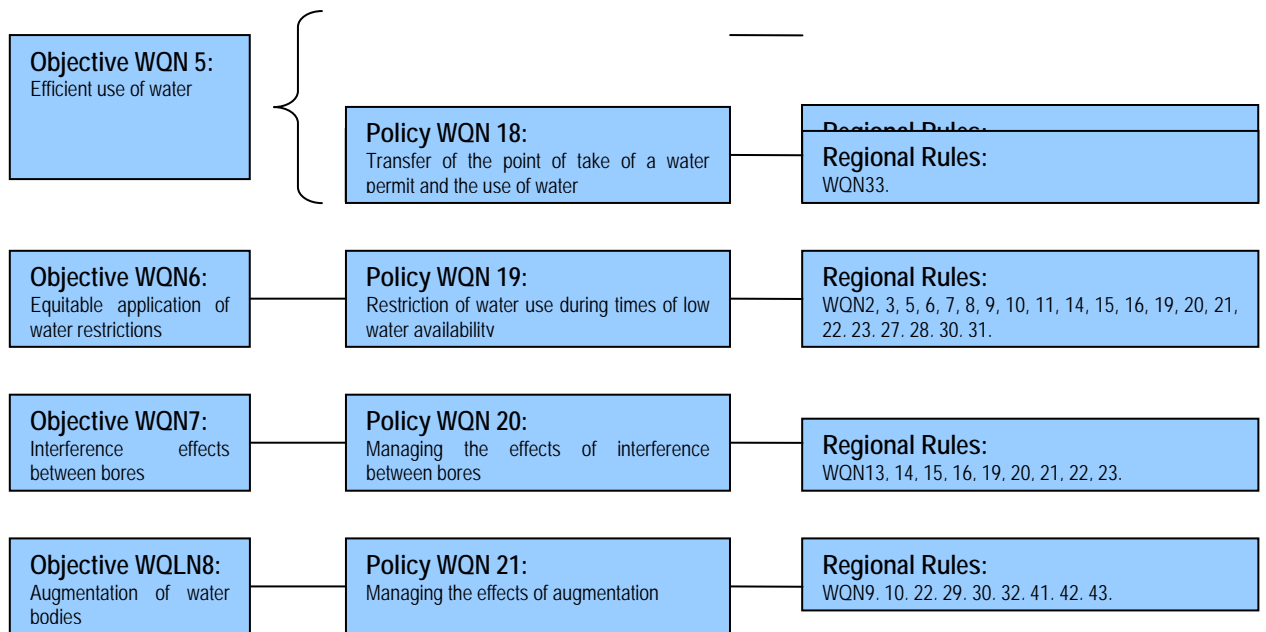
The Chapter introduces a number of rules relating to fresh water. The PNRRP sets the maximum concentrations of toxicants based on using 95%ile (lowland and volcanic) and 90%ile (urban) levels of protection of aquatic ecosystems as outlined by the Australian New Zealand Environmental Conservation Council Guidelines (ANZECC 2002). The PNRRP adopts the ANZECC values as total concentrations and does not include the ANZECC approach of assessing against dissolved toxicants and the development of site specific values (May, 2006).

Rule WQL7 rule allows for the discharge of stormwater from a stormwater network (stormwater management area 2) into land or water to be a controlled activity if all the standards and terms of the rule are complied with. The conditions of Rule WQL7 require that an ICMP be prepared.

**Chapter 5: Water Quantity.** Chapter 5 sets out the Issues, Objectives, Policies and Rules regarding the management of water quantity in the region's water bodies, summarised in the diagram below.

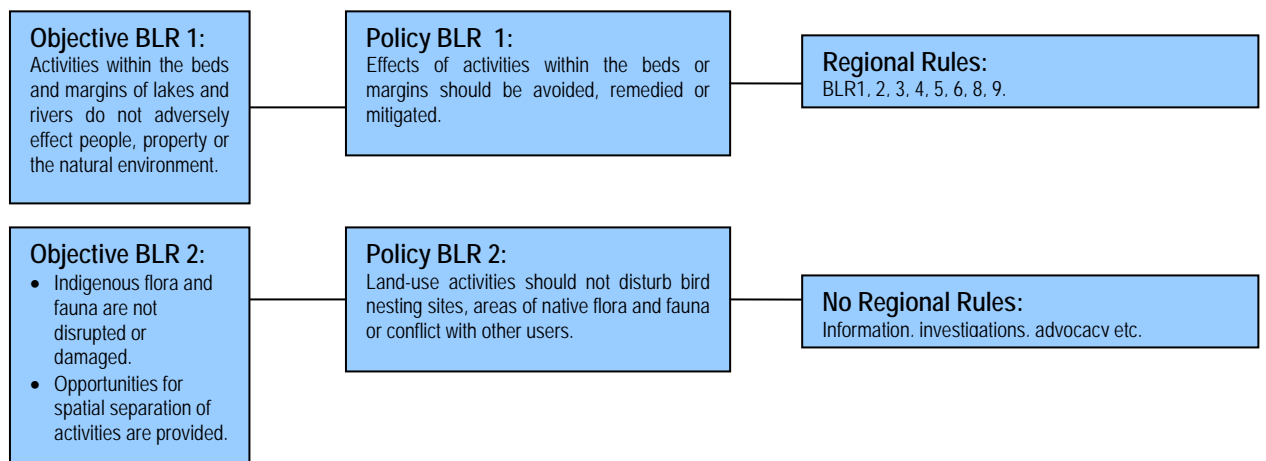
Figure B. The objectives, policies and rules of PNRRP Chapter 5 (Water Quantity)





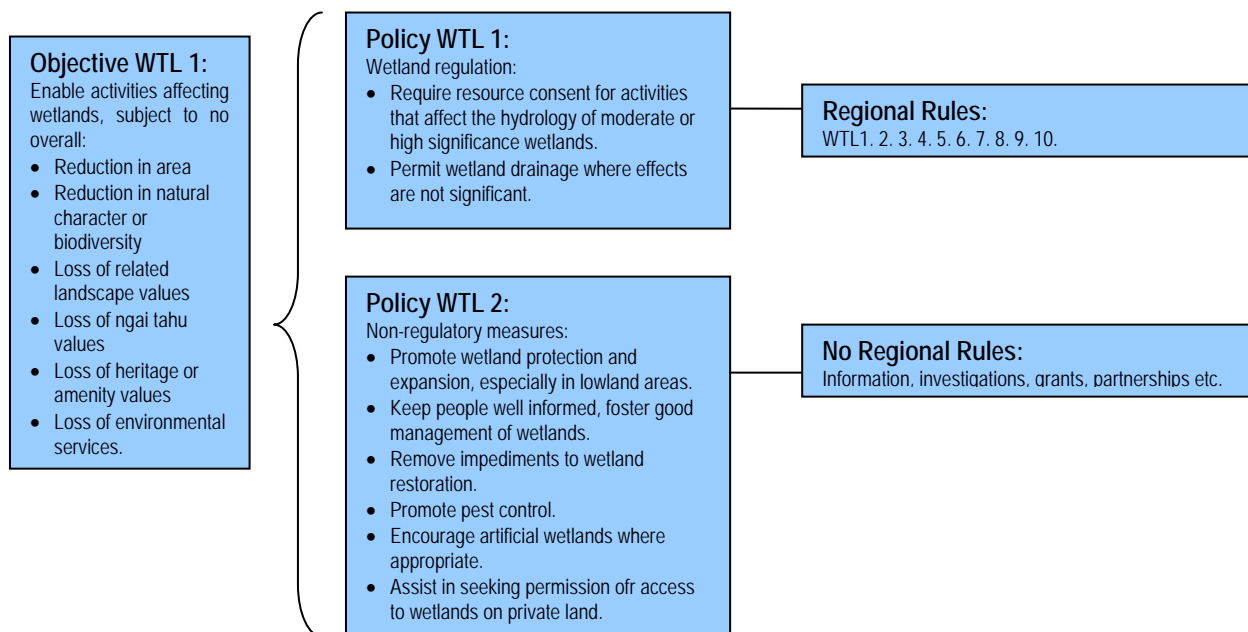
**Chapter 6: Beds and margins of lakes and rivers.** Chapter 6 sets out the Issues, Objectives and Policies relating to the beds and margins of lakes and rivers in Canterbury. These are summarised in figure 5 below.

*Figure C. The objectives, policies and rules of PNRRP Chapter 6 (Beds and margins of lakes and rivers)*



**Chapter 7: Wetlands.** Chapter 7 sets out the Issues, Objectives and Policies relating to the management of the region's wetlands. These are summarised in Figure D below.

Figure 6. The objectives, policies and rules of PNRRP Chapter 7 (Wetlands).



It is likely that significant changes will be made to the PNRRP before it becomes operative (possibly in 2011).

### **Erosion and Sediment Control Guidelines**

Ecan has developed guidelines for the control of sediment discharges during construction and subdivision. The guidelines are aimed at developers, contractors and consultants as well as territorial authorities and Environment Canterbury consent and compliance staff.

The practices and procedures in the guideline apply to erosion and sediment control from temporary land-disturbing and vegetation removal activities associated with:

- residential subdivisions
- large-scale roading
- industrial estates
- development of tracking for forestry or agriculture
- quarries
- cleanfills and landfills
- related works including stream works, installation of utility services and housing construction on individual small sites.

The *Erosion and Sediment Control Guidelines* are non-statutory and are implemented through site visits, voluntary approaches and education The Guidelines apply to all construction activities

but have particular emphasis on Port Hills discharges due to the fine sediment arising from earthworks.

### **Pollution Prevention Guide**

Environment Canterbury's pollution prevention programme is aimed at improving environmental management practices in businesses. The associated Guide is aimed at improving hazardous substance storage and disposal on industrial sites through voluntary approaches. The aim is to avoid compliance breaches.

## Appendix 6: Local planning provisions

### CITY PLAN

#### Volume 1

#### Chapter 3: Issues

This chapter identifies the key resource management issues in Christchurch. It highlights several key issues relevant to fresh water:

- Poor water quality
- Conflicts between different recreation activities
- Limited or no public access to some waterways
- How to maintain and enhance the diversity of water environments in Christchurch
- How to raise awareness of the value of water
- The modification and destruction of natural riparian and river-bed habitats
- Erosion, particularly on the Port Hills
- Flood risk
- How to establish links between different habitats
- The capacity of the City's resources to absorb population changes
- Contamination of aquifers
- Contamination from stormwater run-off from roads
- Ensuring the density and design of development ensures the capacity of stormwater systems are not exceeded
- Loss of wetlands

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#### Volume 2

#### Section 2: Natural Environment

This section identifies the natural environment objectives and policies, including those relevant to fresh water:

##### Objective 2.2 Water

- Policy 2.2.3 Manage stormwater to minimise flooding and promote groundwater recharge.
- Policy 2.2.4 Manage the location and scale of land-use activities and stormwater to avoid, remedy, or mitigate surface water pollution and effects on aquatic ecosystems.
- Policy 2.2.5 Conserve and enhance remaining wetlands, and create new wetlands in suitable areas.
- Policy 2.2.7 Enhance waterways as habitats for aquatic species.
- Policy 2.2.8 Enhance the natural, amenity, and access values of waterway margins
- Policy 2.2.9 Avoid unnecessary building in proximity to waterways.
- Policy 2.2.10 Protect conservation, recreation opportunities, and public access to marins and rivers through esplanade reserves, esplanade strips and access strips in locations and of a width appropriate to the waterway.

##### Objective 2.4 Natural Features & Habitats

- Policy 2.4.1 Protect, and restore where appropriate, Ecological Heritage Sites.
- Policy 2.4.3 Promote environmental enhancement and rehabilitation of natural areas.
- Policy 2.4.4 Maintain and enhance the integrity and diversity of natural ecosystems and habitats.
- Policy 2.4.5 Extent and protect natural ecosystems and habitats.
- Policy 2.4.6 Conserve biodiversity by protecting, enhancing, and restoring species, particularly indigenous species.

## **Volume 2**

### **Section 6: Urban Growth**

This section identifies Objectives and Policies which support a 'consolidated' urban form. One objective and policy relate to fresh water:

#### Objective 6.3 Peripheral Urban Growth

Policy 6.3.5 Avoid urbanisation of land which is of outstanding landscape quality, is ecologically significant, or which detracts from the margins of waterways or the coastline.

## **Volume 2**

### **Section 8: Utilities**

This section identifies Objectives and Policies for the efficient provision of utilities in Christchurch, some of which relate to water, wastewater and stormwater infrastructure:

#### Objective 8.1 Provision of Utilities

Policy 8.1.1 Ensure areas for new development are (a) able to be serviced (b) located in areas where the Council will meet the costs of major works (c) located in areas where development will be paid for by the developer.

Policy 8.1.2 Ensure infill/redevelopment areas (a) have capacity within existing services (b) are located where additional service are able to be provided.

#### Objective 8.2 Efficient Utilities

Policy 8.2.1 Encourage development of areas which (a) are already serviced and have capacity (b) take into account economic costs (c) minimise demands on the limited capacity of water resources.

#### Objective 8.3 Adverse Environmental Effects

Policy 8.3.6 Recognise and enhance amenity and natural values of waterways, while maintaining their drainage function.

## **Volume 2**

### **Section 10: Subdivision and Development**

This section identifies the Objectives and Policies for subdivision in Christchurch, some of which relate to fresh water:

#### Objective 10.1 Subdivision and Natural Hazards

Policy 10.1.1 Avoid subdivision where (a) the area is subject to moderate to high risk from inundation, flooding, or high water tables (b) the subdivision would result in an increased risk of inundation or flooding elsewhere.

Policy 10.1.3 Ensure subdivision does not lead to significant risk from alluvion or avulsion, or detract from the drainage function of waterways.

#### Objective 10.2 Protection of Natural Features and Archaeological Sites

Policy 10.2.1 Protect significant natural features, ecosystems, and archaeological sites.

Policy 10.2.2 Provide access to and along the margins of rivers, lakes, waterways and the coastline, where appropriate opportunities exist.

#### Objective 10.4 Anticipated Land Uses

Policy 10.4.8A Encourage the retention of natural open waterway systems for stormwater disposal, and ensure disposal in a manner which maintains or enhances the quality of surface and groundwaters.

Policy 10.4.8B Minimise any increase in contaminant levels entering water bodies as a result of stormwater disposal.

## **Volume 2**

### **Section 12: Business**

This section contains Objectives and Policies relating to business environments, one of which relates to surface water:

#### Objective 12.11 Amenity and Effects of Industrial Areas

Policy 12.11.2 Limit the development of industrial areas where environmental constraints exist, unless they can be adequately mitigated.

## **Volume 2**

### **Section 13: Rural**

This section outlines Objectives and Policies for the Rural area of Christchurch, some of which relate to fresh water:

#### Objective 13.2 Water Resources

Policy 13.2.2 Control land-uses to protect the quality and availability of water supplies.

Policy 13.2.3 Ensure that land-use activities do not have a detrimental effect on the quality of surface waters.

## **Volume 2**

### **Section 14: Recreation and Open Space**

This section outlines Objectives and Policies for recreation and open space areas in the City, some of which relate to fresh water:

#### Objective 14.1 Provision and diversity

Policy 14.1.11 Enhance the role of surface water resources and coastal margin both for conservation and for environmentally compatible recreation uses.

Policy 14.1.12 Manage the recreation use of the surface and margins of the City's rivers in a way that does not adversely affect their natural and ecological values, bank stability and adjoining activities.

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## **Volume 3**

### **Part 5: Conservation Zones**

This part of the City Plan states rules relating to Conservation Zones in the City, some of which are relevant to fresh water. In particular, attention is drawn to any proposed works in, on, under or over the beds of rivers, which are subject to Ecan rules:

#### Assessment Matters for Resource Consent:

In Conservation Zones, building resource consents can be assessed against:

- Impact of building construction on natural values
- Disturbance to vegetation or features by construction or access to it
- The visual impacts of the building
- The extent to which the proposed building adds to the coverage of buildings already on site.
- Any effects on public access
- Any adverse effects on waterway and floodplain management and functions, including erosion

Activities on the surface of waterways can be assessed against:

- Any adverse effects on the natural values of waterways, especially banks and riparian vegetation.
- Any adverse effects on wildlife by disturbance to nesting or feeding sites.

- Any impacts in terms of congestion or detracting from natural values that may be caused where vessels are loaded/unloaded.
- The speed and size of any vessels to be used on surface waterways, and the likelihood of bank erosion.

### **Volume 3**

#### **Part 14: Subdivision**

This part of the City Plan establishes the rules governing subdivision.

##### General provisions

2.5 Any subdivision proposal to create 30 or more lots shall obtain a discharge permit from ECAn.

### BANKS PENINSULA DISTRICT PLAN

#### **Part III**

##### **Chapter 7: Sustainable Development and Growth of the Built Environment**

This chapter outlines the Issues, Objectives and Policies relating to urban development on the Peninsula:

Issue 1 Unmanaged development may compromise natural and physical resources  
 Objective 1 To ensure future development does not detract from existing natural and physical resources  
 Policy 1B Development should be located to protect the environment.

#### **Part III**

##### **Chapter 8: Issues of Importance to Tangata Whenua**

This chapter outlines the Issues, Objectives and Policies relating to Tangata Whenua values.

Issue 1 Land and waters significant to Tangata Whenua may be adversely affected by activities  
 Objective 1 To give effect to kaitiakitanga, mahinga kai, mauri, rahui and waahi taonga.  
 Policy 1B Natural habitats that are the sources of mahinga kai should be identified and protected where appropriate.  
 Policy 1C Tangata Whenua should be consulted where activities are proposed on land and water which are of significance to them.

Issue 2 Lack of access to important sources of mahinga kai and sites of cultural significance  
 Objective 2 Recognise and provide access to sources of mahinga kai, sites of cultural significance, and other taonga.  
 Policy 2A Tangata Whenua should be consulted when land-use activities have the potential to adversely effect access to sources of mahinga kai and sites of cultural significance.

#### **Part III**

##### **Chapter 9: Conservation of Heritage**

This chapter outlines the Issues, Objectives and Policies relating to the conservation of heritage on the Peninsula:

Issue 1 The indigenous biodiversity of Banks Peninsula are being modified and degraded by activities and land-uses.  
 Objective 1 Protect and enhance indigenous biodiversity, including riparian areas, and wetlands.

Policy 1A	Activities and development should avoid, remedy, or mitigate, any adverse effects on: ecological functioning, habitat and amenity values of significant vegetation, wetlands or habitats.
Policy 1B	Public access to significant habitats should not compromise ecological values.
Policy 1C	Encourage the protection and enhancement of areas of significant habitats.
Policy 1D	Avoid, remedy, or mitigate the adverse effects of activities and development on habitat linkages between habitats, including wetlands.
Policy 1E	Public access to the coast, lakes and rivers, should not compromise environmental quality or amenity.
Policy 1F	Avoid, remedy or mitigate the adverse effects of activities and development on freshwater habitats.

**Part III**  
**Chapter 10: Water Resources**

This chapter outlines the Issues, Objectives and Policies specific to the water resources of the Peninsula:

<u>Issue 1:</u>	<u>Adverse effects on water quality and quantity from activities.</u>
Policy 1A	Ensure activities do not adversely affect the quality of surface, ground and coastal waters and associated habitats.
Policy 1B	Activities which use surface water should not adversely affect water quality and associated habitat values.
Policy 1C	Promote measures that minimise non-point source discharges of contaminants into water bodies and the coast.
Policy 1D	Promote land-use that maintains and enhances water quality.
Policy 1E	Retain, protect and promote riparian vegetation.
Policy 1F	Encourage water conservation and recycling.
Policy 1G	Land-use activities which have the potential to deplete catchments should be sited to avoid reduction in the flow of streams and rivers which serve as a water source.

**Part V**  
**Chapter 16: Conservation Reserves Zone**

This chapter outlines the Issues, Objectives, Policies and Rules applied to the Conservation Zone:

Conservation Zone Rules

3. Conditions: *No building, structure or earthworks can be undertaken within 20 metres of any Surface Water Body.*

**Part V**  
**Chapter 17: Lakes**

This chapter outlines the Issues, Objectives, Policies and Rules applied in the areas of Lake Forsyth/Wairewa and Lake Ellesmere/Te Waihora:

<u>Issue 1</u>	<u>Activities taking place on and next to the lakes and adjacent wetlands can compromise the ecological and cultural values of the Lakes.</u>
Objective 1	Protect and enhance the natural and cultural values of the lakes and associated wetlands.
Policy 1A	Activities taking place on and adjacent to the shores of the lakes and associated wetlands should not impair the ecological functioning of the lakes.

Policy 1B	Activities taking place on and adjacent to the shores of the lakes and their associated wetlands should be consistent with the significance of the lakes to iwi.
Policy 1C	Activities on and adjacent to the shores of the lakes and their associated wetlands should not reduce the qualities of the lakes as sources of mahinga kai.
Policy 1E	Lake levels will be managed to prevent flooding in a way that avoids, remedies or mitigates adverse effects on the values of the lakes.

#### Lakes Zone Rules

2. Conditions:	<i>Clearance of indigenous vegetation shall not exceed 100m<sup>2</sup> per site less than 1 hectare over a five year period, or 100m<sup>2</sup> on a site greater than 1 hectare. Stock yards, pens, cattle and goat grazing, or removal or indigenous vegetation, shall not be: within 100m of the margin of Lake Ellesmere/Te Waihora, 50m of the margin of Lake Forsyth/Wairewa, 50m of any wetland, 20m of any river. Earthworks shall not exceed 10m<sup>3</sup> or 50m<sup>2</sup> over 5 years for a site less than 1 hectare, or 10m<sup>3</sup> or 50m<sup>2</sup> if site greater than 1 hectare.</i>
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### Part V

#### Chapter 19: The Rural Zone

This chapter details the Issues, Objectives, Policies and Rules applied to the Rural Zone on Banks Peninsula:

Issue 4	<u>Land-use activities can have adverse effects on water quality and quantity and the natural character of streams and water bodies</u>
Objective 4	To maintain and enhance the quality and quantity, and natural character of natural water bodies.
Policy 4A	Buildings should be sited in a way that allows the retention and establishment of riparian and wetland vegetation.
Policy 4B	Stormwater should be disposed of so that it does not create erosion, inundation, and siltation of any water body.
Policy 4C	Effluent and stormwater from new development is to be safely and effectively disposed of to avoid adverse effects on ground or surface water quality.
Policy 4D	Riparian areas are to be managed to maintain and enhance their vegetation and natural character.

#### Rural Zone Rules

4. Conditions	<i>in granting a resource consent for a controlled activity, the Council can consider impact of water quality and quantity.</i>
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### Part V

#### Chapter 20: Rural-Residential Zone

This chapter outlines the Issues, Objectives and Rules affecting land-use in the Rural-Residential Zone:

Issue 4	<u>Intensive residential development can exceed existing servicing and infrastructure capabilities in rural areas.</u>
Objective 4	To ensure that rural-residential development provides appropriate servicing and infrastructure without adverse effects on the environment.

### Part V

#### Chapter 21: Small Settlement Zone

This chapter outlines the Issues, Objectives and Rules of the Small Settlement Zone:

Issue 2	<u>Activities on steep slopes can have adverse effects on water bodies and soil and stability.</u>
Objective 2	To avoid, remedy or mitigate adverse effects on water quality and soil stability.

Policy 2B Earthworks and stormwater disposal shall be managed to avoid soils stability problems and the siltation of water bodies.

Issue 3 The unavailability of sewage and stormwater systems may constrain future expansion.

Objective 3 To ensure that additional residential buildings and activity occurs only where there is adequate stormwater and sewage disposal.

**Part V**  
**Chapter 22: Papakaianga Zone**

This chapter establishes the Issues, Objectives, and Rules of the Papakaianga Zone:

Issue 3 Some activities in the Papakaianga Zone may have adverse effects on the environment.

Objective 3 To protect the natural environment and amenity values from adverse effects of activities.

Policy 3B Earthworks should be controlled to avoid the siltation of water bodies.

**Part V**  
**Chapter 24: Residential Zone**

This Chapter contains the Issues, Objectives and Rules of the Residential Zone:

Issue 2 Earthworks can have adverse effects on soil and slope stability.

Policy 2B Earthworks shall be controlled to avoid the siltation of water bodies.

Issue 3 The inability of some infrastructure to cope with residential expansion can have adverse effects on the environment.

Objective 3 To ensure that additional residential development only occurs where infrastructure can meet needs.

Policy 3B Any extension of public infrastructure or services shall be provided by the developer.

**Part V**  
**Chapter 25: Residential Conservation Zone**

This chapter contains the Issues, Objectives and Rules of the Residential Conservation Zone, some of which relate to fresh water:

Issue 3 The earthworks required for residential development can have adverse effects on soil and slope stability.

Policy 3B Control earthworks to avoid the siltation of water bodies.

**Part VI**  
**Chapter 31: Subdivision**

This chapter contains the Issues, Objectives and Rules of Subdivision on the Banks Peninsula. Some of these provisions relate to surface water:

Issue 4 Subdivision may generate unsustainable demands on infrastructure and Council services.

Policy 4B Require the adverse effects of stormwater disposal to be avoided, remedied or mitigated.