

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of the Environment Canterbury (Temporary  
Commissioners and Improved Water Management) Act 2010

AND

IN THE MATTER of proposed Plan Change 6 to the Canterbury  
Land and Water Regional Plan

**REPORT AND RECOMMENDATIONS  
OF THE  
HEARING COMMISSIONERS**

**APPENDIX B**

**Proposed Plan Change 6 - Inclusive of Recommended Amendments**

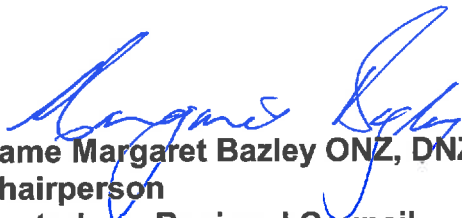
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I hereby certify this is a true and correct copy of the decisions on proposed Plan Change 6 to the Canterbury Land and Water Regional Plan, approved at a meeting of the Canterbury Regional Council on 25 August 2016.

The Common Seal of the Canterbury Regional Council was fixed in the presence of:



**Bill Bayfield**  
**Chief Executive**  
**Canterbury Regional Council**



**Dame Margaret Bazley ONZ, DNZM, Hon DLit**  
**Chairperson**  
**Canterbury Regional Council**



**25 August 2016**



# Proposed Plan Change 6 to the Canterbury Land and Water Regional Plan

## How to read this plan change

### Operative LWRP provisions

- Operative parts of the Canterbury Land and Water Regional Plan that are not amended by proposed Plan Change 6 are shown in black text.

### Notified Plan Change 6 provisions

- Additions proposed by Plan Change 6 (as notified) are shown with underlining
- Deletions proposed by Plan Change 6 (as notified) are shown with ~~striketrough~~

The recommendations of the Hearing Commissioners are indicated as follows:

- Additions proposed by Plan Change 6 (as notified), and which the Hearing Commissioners recommend **accepting**, are indicated with underlining.
- Deletions proposed by Plan Change 6 (as notified), and which the Hearing Commissioners recommend **accepting**, are indicated with ~~striketrough~~.
- Additions proposed by Plan Change 6 (as notified), and which the Hearing Commissioners recommend **rejecting**, are indicated in ~~red text with black underline and red striketrough~~.
- Further additions recommended by the Hearing Commissioners in response to submissions are indicated in red text with underlining
- Further consequential deletions recommended by the Hearing are indicated ~~in red text with a double striketrough~~

## Submission points

- Footnotes are used throughout the document to identify the source submission point for any recommended addition or deletion. These footnotes are indicated as follows:

1 – Submitter name, Submission point

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Proposed Plan Change 6  
to the  
Canterbury Land and Water Regional Plan  
Section 10 - Banks Peninsula

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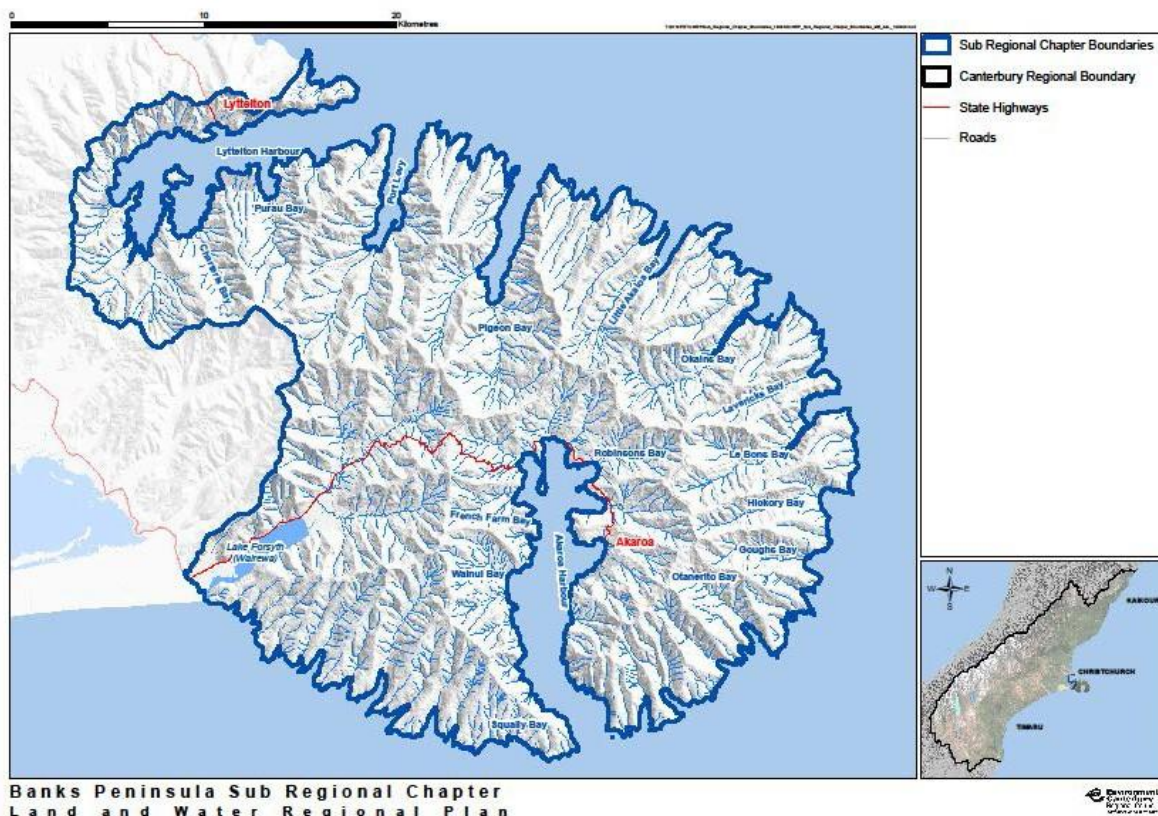
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## Section 10- Banks Peninsula

The area covered by this sub-region section is shown in [Figure 1](#)<sup>(1)</sup> below. It generally corresponds with the area covered by the Banks Peninsula Water Management Zone Committee.

Many of the rivers and streams on Banks Peninsula have steep, short catchments, generally with riffle-run pool sequences. These waterways are rain-fed, are subject to rapid flow recession, and some may be seasonally dry. Banks Peninsula waterways also typically have long periods of low flow, low base flows and infrequent large floods of short duration, with higher flows occurring in winter when precipitation is higher. Some small streams exit to small estuaries situated in pocket beaches, before entering the sea.

Figure 1: Banks Peninsula Sub-Region



### Lake Forsyth / Wairewa catchment<sup>(2)</sup>

[Figure 2](#) defines the extent of the Wairewa catchment. The [Lake Forsyth / Wairewa](#)<sup>(3)</sup> catchment covers the land from mean high water springs at Birdlings Flat to the south, Mount Fitzgerald and Mount Sinclair to the north, High Bare Peak to the west and Saddle Hill / Wainui Pass to the east. The main water resources in this catchment include [Lake Forsyth / Te Roto o Wairewa / Lake Forsyth](#) and the waterways that flow into the lake, such as the [Ōōkana](#), [Ōōkuti](#) and [Takiritawai](#) Rivers.<sup>(4)</sup> The catchment includes the townships of Little River, Birdlings Flat and Cooptown.

<sup>1</sup> Director General of Conservation PC6 LWRP-5

<sup>2</sup> Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-101 [amendment to the naming of the catchment is repeated throughout PC6]

<sup>3</sup> Consequential to Director General of Conservation PC6 LWRP-5

<sup>4</sup> Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-112 [amendment to include macron in Ōōkana and Ōōkuti is repeated throughout PC6]

Figure 2 Lake Forsyth/Wairewa catchment (5)

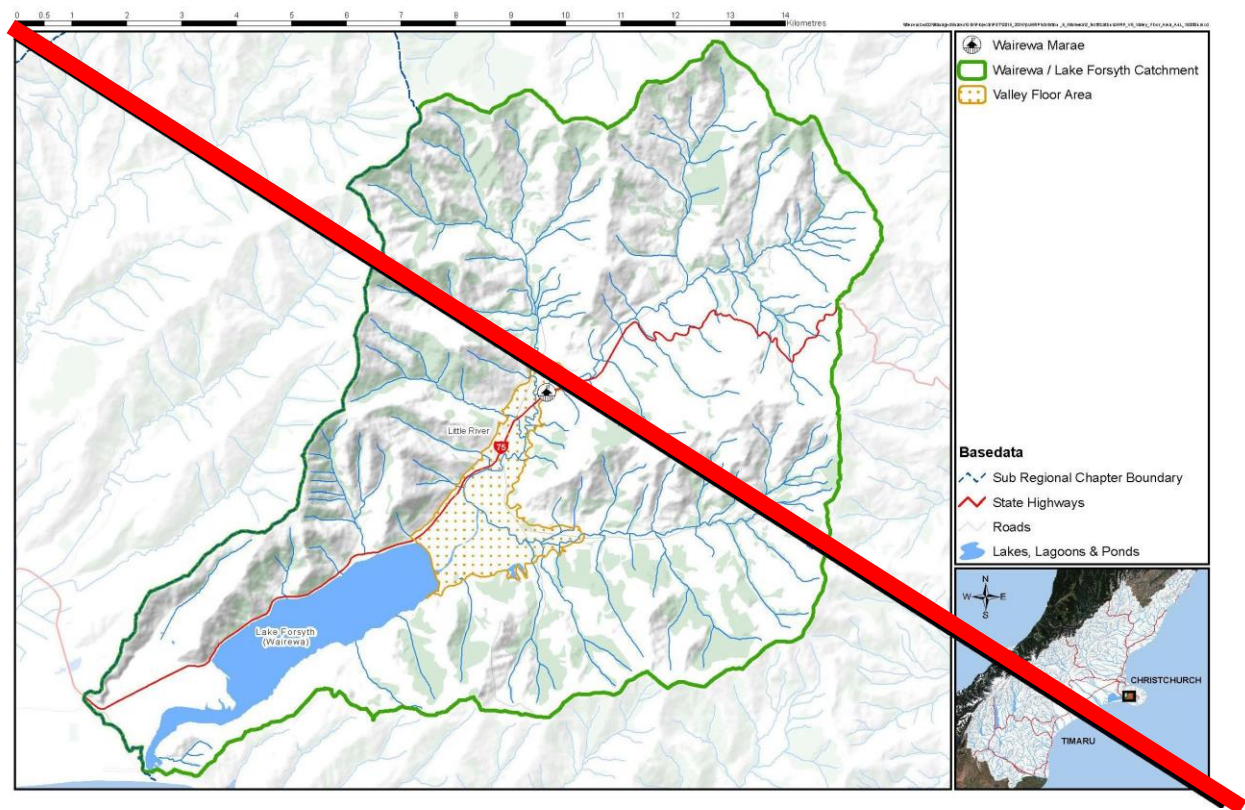
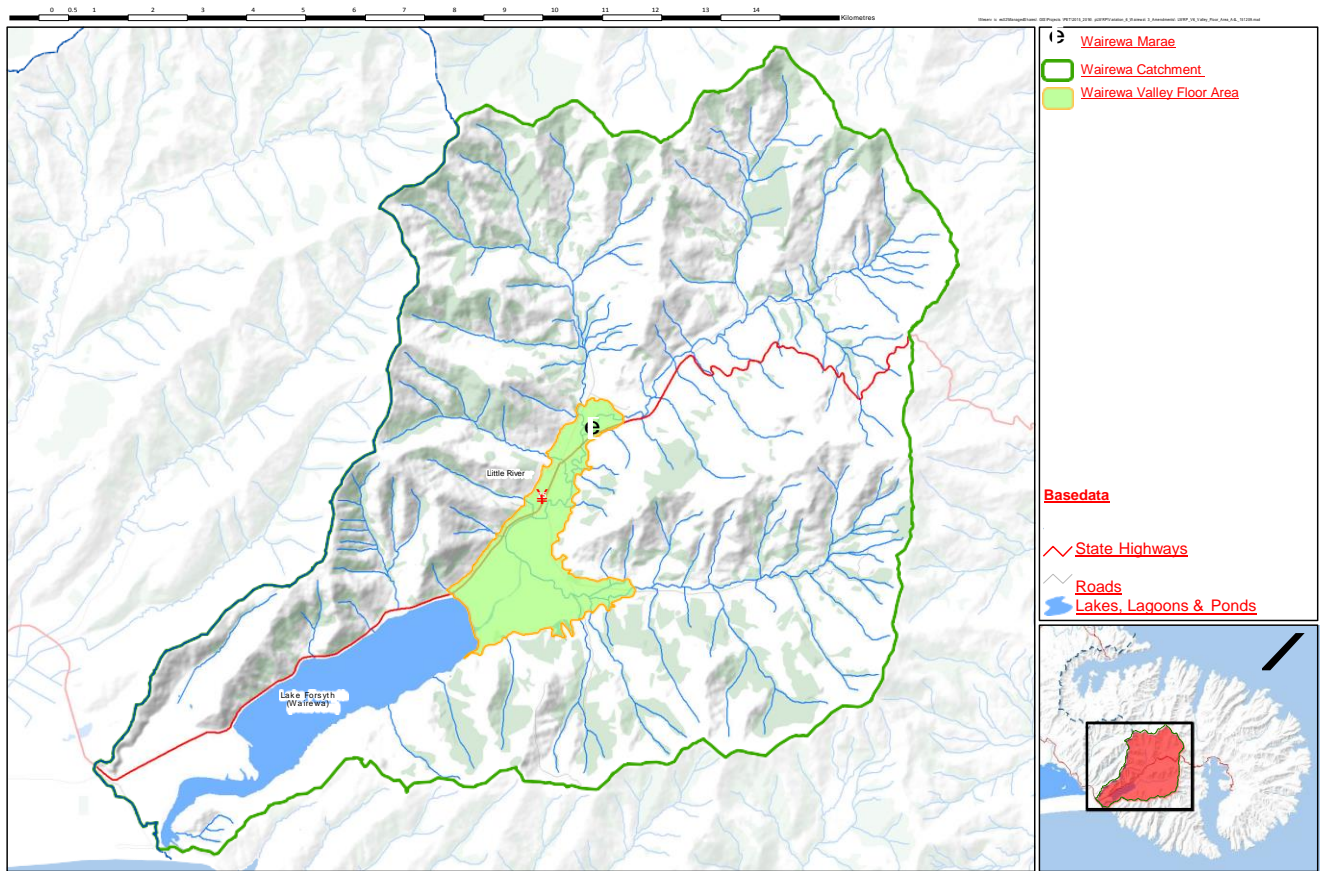


Figure 2 Wairewa catchment (6)



5 Federated Farmers PC6LWRP-23

6 Federated Farmers PC6LWRP-23



The hapū with kaitiakitanga responsibilities for the ~~Lake Forsyth~~/Wairewa catchment are Kāti Irakehu and Kāti Makō, represented in a modern-day context by Wairewa Rūnanga. The marae of Kāti Irakehu and Kāti Makō is located in the catchment, as shown in Figure 2.

The outstanding cultural significance of ~~Lake Forsyth~~/Te Roto o Wairewa/~~Lake Forsyth~~<sup>(7)</sup> is recognised in the Ngāi Tahu Claims Settlement Act 1998, including by the Statutory Acknowledgement for the lake, and by the creation of a reserve at the head of the lake. ~~Lake Forsyth~~/Te Roto o Wairewa/~~Lake Forsyth~~ is renowned for its mahinga kai values, with tuna (eel), pātiki (flounder) and inanga (whitebait) the main kai taken. Commercial fishing is prohibited in the Wairewa/Lake Forsyth Mātaitai Reserve which includes ~~Lake Forsyth~~/Te Roto o Wairewa/~~Lake Forsyth~~ and the Takiritawai River. The lake is also one of only two customary lakes in New Zealand, which means that only Ngāi Tahu may take tuna from the lake.

~~Te Roto o Wairewa/Lake Forsyth lakebed, totalling 651.73 hectares, is a stewardship area managed under section 25 of the Conservation Act by the Department of Conservation.~~<sup>(8)</sup>

~~Lake Forsyth~~/Te Roto o Wairewa/~~Lake Forsyth~~ is also recognised as a nationally and regionally significant lake and wetland area.<sup>(10)</sup> ~~Lake Forsyth~~/Te Roto o Wairewa/~~Lake Forsyth~~ provides lake-margin and swamp habitats for waterfowl (including the crested grebe) and other threatened or at risk bird species,<sup>(11)</sup> a variety of salt and freshwater marsh plants and invertebrate species. The lake and its tributaries provide habitats for a variety of fish species including tuna (long finned and short finned eel),<sup>(12)</sup> inanga, patiki, banded kōkopu, and common and upland bullies. The ~~Ō~~Ōkuti River is a known spawning site for the kanakana (lamprey). Apart from the upland bully, all these species require access to the sea to complete their lifecycle. Perch and brown trout can also be found in ~~Lake Forsyth~~/Te Roto o Wairewa/~~Lake Forsyth~~ and its tributaries.

~~Te Roto o Wairewa/Lake Forsyth and its tributaries, the Ōkana and Ōkuti rivers, are classed as a locally important salmonid fishery, and the Lake is also classed as nationally and regionally significant game bird habitat.~~<sup>(13)</sup>

Over the last 160 years, the ~~Lake Forsyth~~/Wairewa catchment has changed dramatically. Historically the lake was a shallow estuary but the growth of the Kaitorete Spit has enclosed it, and there is insufficient flow to maintain an opening to the sea. Deforestation of the catchment has accelerated the natural processes of erosion and the subsequent loss of sediment into waterways and the lake, and there is insufficient water movement to move sediment and phosphorus out into the sea. The once abundant eel fishery is in decline, though the exact reasons for this decline are unclear.

Soils in the catchment are naturally high in phosphorus and this is thought to be a driving factor in the regular summer blooms of the toxic cyanobacteria, *Nodularia spumigena*, within ~~Lake Forsyth~~/Te Roto o Wairewa/~~Lake Forsyth~~. These blue-green algal blooms produce toxic by-products which are harmful to humans and animals, and impact on cultural, recreational and amenity values associated with the lake. Erosion of stream banks in the valley floor is the single biggest source of phosphorus. Preventing eroded soil from entering waterways, and eventually the lake, is a critical challenge for the catchment.

Other issues in the ~~Lake Forsyth~~/Wairewa catchment are the phosphorus rich sediment that is already in the lake ('legacy phosphorus'); controlling other sources of phosphorus; the setting of minimum flows and allocation limits for the ~~Ō~~Ōkana, ~~Ō~~Ōkuti and Takiritawai rivers; and providing for the migratory habits of the tuna so as to enhance mahinga kai and to complete the life cycle of other diadromous fish.<sup>(14)</sup>

~~Nitrogen concentrations in the catchment's rivers are currently low and these low concentrations should be maintained to avoid exacerbating algal blooms within Te Roto o Wairewa/Lake Forsyth.~~<sup>(15)</sup>

~~The nitrate-nitrogen limits for the rivers in the Wairewa catchment are set at a level to manage more than just toxicity. They also seek to manage periphyton in rivers and the contribution of the river to total nitrogen within the Lake.~~

7 Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-101 [amendment to the naming of the Lake is repeated throughout PC6]

8 Director General of Conservation PC6 LWRP-7

10 Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-103

11 Director General of Conservation PC6 LWRP-8

12 Director General of Conservation PC6 LWRP-9

13 Fish and Game PC6 LWRP-67

14 Director General of Conservation PC6 LWRP-10, Fish and Game PC6 LWRP-65

15 Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-106

During 2013-2015 the Banks Peninsula Zone Committee engaged with the local community and stakeholders to develop a package of actions (the 'Solutions Package') to protect community values and opportunities to safely gather mahinga kai, improve water quality in Lake Forsyth / Te Roto o Wairewa / Lake Forsyth (aspiring to a TLI trophic state of 4 in the long term(20 years)),<sup>(15A)</sup> and manage water quantity in the rivers in the catchment while also sustaining a healthy economy and community. The Wairewa Zone Implementation Programme Addendum November 2014 records the full package of actions to be implemented, and includes those that are best given effect to through regulation and those that are best achieved through other means.

The key actions include:

- Addressing the key source of phosphorus in the catchment by encouraging works to stabilise the banks of rivers in the Valley Floor Area;
- Preventing stock accessing the river banks in the Valley Floor Area so as to reduce bank erosion and collapse, and prevent animal effluent entering waterways;
- Intercepting phosphorus-rich sediment before it enters the lake through the construction of a sediment retention basin or wetland at the head of Lake Forsyth / Te Roto o Wairewa / Lake Forsyth;
- Providing for lake investigations to address the phosphorus that is already present in the lake;
- Requiring community wastewater treatment systems to remove phosphorus from discharges where practicable, and minimise the volume of wastewater;
- Introducing a minimum flow and allocation limit for the Ōhoka, Ōkūti and Takiritawai rivers and their tributaries that protects the ecosystems and cultural health of these water bodies;
- Setting a nitrate-nitrogen concentration for rivers that protects the existing high water quality; and
- Providing for a lake opening and closing regime that maintains lake levels for flood control and land drainage, while recognising the cultural values of Ngāi Tahu.

This section of the Plan includes policies and rules that, in addition to those in Sections 4 and 5, will support the implementation of the Solutions Package for the Lake Forsyth / Wairewa catchment and will sustainably manage water resources to achieve the purpose of the Resource Management Act 1991. It does so within the scope of a regional plan and regional council functions under the Resource Management Act 1991.

## 10.1 Other Regional Plans that apply to the Banks Peninsula Sub-region

~~Nil.~~ Regional Coastal Environment Plan for the Canterbury Region 2005<sup>(16)</sup>

### 10.1A Definitions

For the Lake Forsyth / Wairewa catchment the following definitions apply in addition to those contained in Section 2.9.

Word or Phrase	Definition
<u>Lake Forsyth / Wairewa</u> catchment	means the area shown as the <u>Ōhoka - Lake Forsyth Nutrient Allocation Zone</u> on the Planning Maps
Valley Floor Area	means the area identified as the <u>Wairewa Valley Floor Area</u> on the Planning Maps.

## 10.2 Water Conservation Orders that apply to the Banks Peninsula Sub-region

Nil.

<sup>15A</sup> Minor amendment (Clause 16, Schedule 1 RMA).

<sup>16</sup> Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-107, Director General of Conservation PC6 LWRP-12, Fish and Game PC6 LWRP-68

### 10.3 Fresh water Outcomes

Objectives in Section 3, Policies 4.1, 4.2, 4.3 and 4.4.

### 10.3 Iwi Management Plans that apply to the Banks Peninsula Sub-region

Mahaanui Iwi Management Plan 2013.

Te Rūnanga o Ngāi Tahu Freshwater Policy Statement.

### 10.4 Policies

No additional policies apply in the Banks Peninsula Sub-region, in addition to those set out in Section 4 of this Plan.

~~Note: No policies additional to those in Section 4 of this Plan apply in the Banks Peninsula Sub-region, except that the following policies also apply in the Lake Forsyth / Wairewa catchment.~~

~~Note: The following policies apply within the Wairewa catchment in addition to the region-wide policies set out in Section 4 of this Plan.~~<sup>(17)</sup>

#### Improving Water Quality

10.4.1 Enhance the cultural values of Ngāi Tahu, ~~recreation and amenity values,~~<sup>(18)</sup> and the ecological health and water quality in the ~~Lake Forsyth /~~ Wairewa catchment by:

- (a) excluding stock from the bed and riparian margins of the Ōhōkana, Ōhōkūti, and Takiritawai rivers, their tributaries, and the lake within the Valley Floor Area, in order to reduce the risk of bank erosion and collapse and avoid animal effluent entering water; and
- (b) reducing the risk of bank erosion and collapse and the loss of soil into water through providing for bank stabilisation activities that are consistent with a Valley Floor Area River Bank Erosion Plan prepared in accordance with Schedule 24c; and
- (c) encouraging the planting of appropriate<sup>(19)</sup> native species in riparian margins where this is compatible with achieving bank stabilisation; and
- (d) providing for the removal of phosphorus and sediment by diverting river flows through a wetland and/or<sup>(20)</sup> sediment basin before entering ~~Lake Forsyth /~~ Te Roto o Wairewa ~~/Lake Forsyth;~~ and
- (e) requiring discharges from community wastewater treatment systems to minimise phosphorus, and to minimise the volume of wastewater; and
- (f) preventing inundation of ~~septic tanks on-site wastewater treatment systems~~<sup>(21)</sup> from floodwaters in flood-prone areas; and<sup>(22)</sup>
- (g) ~~maintaining low levels of nitrate-nitrogen and ammonia concentrations in rivers to meet the limits in Table 10(d).~~<sup>(23)</sup>

17 Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-108

18 Fish and Game PC6 LWRP-70, Director General of Conservation PC6 LWRP-14

19 Director General of Conservation PC6 LWRP-14

20 Minor amendment (Clause 16, Schedule 1 RMA) – Minor word change to give clarity to the intent of the rule

21 Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-110

22 Minor amendment (Clause 16, Schedule 1 RMA) - to connect clauses

23 Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-110

10.4.2 Improve water quality in ~~Lake Forsyth~~/Te Roto o Wairewa/~~Lake Forsyth~~ by achieving the targets in Table 10(e) and ~~Table 10(f)~~ by 2030.

### **Flood Management**

10.4.3 Improve the flood-carrying capacity of the ~~ŌŌkana, ŌŌkuti, and Takiritawai rivers and their tributaries~~ and avoid activities in the beds or margins of these rivers or their tributaries which may significantly reduce their flood carrying capacity. ~~by excluding stock from the beds and riparian margins of those rivers, and by enabling bank stabilisation works, so that induced bank erosion and collapse is avoided.~~<sup>(24)</sup>

### **Cultural Significance of Te Roto o Wairewa/Lake Forsyth**

10.4.4A Recognise the cultural significance of Te Roto o Wairewa/Lake Forsyth to Ngāi Tahu and its status as a customary lake and area of statutory acknowledgement under the Ngāi Tahu Claims Settlement Act 1998; and promote the restoration of the lake and its margins for customary uses.<sup>(25)</sup>

### **~~Lake Forsyth / Te Roto o Wairewa/Lake Forsyth –Management and Investigations~~**

10.4.4 Recognise and provide for the cultural values of Ngāi Tahu and customary uses of<sup>(26)</sup> ~~for Lake Forsyth~~/Te Roto o Wairewa/Lake Forsyth, and enhance the ecological health of the lake, while maintaining flood control and land drainage functions by:

- (a) reducing the sediment and phosphorus load entering the lake; and
- (b) allowing activities that are for the purpose of investigating legacy phosphorus issues in the lake and that facilitate restoration of the lake; and
- (c) providing for the artificial opening and closing of the lake.

## **10.5 Rules**

~~No additional rules apply in the Banks Peninsula Sub-regional area, in addition to those set out in Section 5 of this Plan.~~

Note: For all activities in or near waterways, refer also to requirements and restrictions under the Canterbury Regional Council Flood Protection and Drainage Bylaw 2013.

### **Bank Erosion and Flood Management**

Note: Despite Rules 10.5.2 and 10.5.3, any activity classified as a permitted activity by a Rule in Section 5 of this plan is permitted in the Valley Floor Area unless it is being carried out for the primary purpose of reducing bank erosion and collapse, in which case Rules 10.5.2 and 10.5.3 apply.<sup>(27)</sup>

~~10.5.1 Despite Rules 10.5.2 and 10.5.3, any activity that is classified as a permitted activity by a rule in Section 5, and that meets the conditions of that rule is a permitted activity in the Valley Floor Area.~~<sup>(28)</sup>

24 Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-112

25 Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-109

26 Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP -113

27 Federated Farmers PC6 LWRP-27; Ngāi Tahu PC6 LWRP-114

28 Federated Farmers PC6 LWRP-27; Ngāi Tahu PC6 LWRP-114



**10.5.2** Within the Valley Floor Area, the use of land in the riparian margin or the disturbance of the bed and banks of the ~~Ōōk~~kana, ~~Ōōk~~kuti and Takiritawai rivers and their tributaries, or ~~Lake Forsyth~~/Te Roto o Wairewa/~~Lake Forsyth~~, that is for the purpose of reducing bank erosion and collapse and that<sup>(29)</sup> includes:

- (a) planting or removal of vegetation; or
- (b) installation, maintenance, use and removal of a structure; or
- (c) installation, maintenance, use and removal of cables or wires and associated support structures; or
- (d) earthworks, including excavation; or
- (e) diversion of water; or
- (f) the incidental discharge of sediment-laden water into surface water, or into or onto land in circumstances where it may enter surface water; or
- (g) deposition of substances on, in or under the bed of a lake or river;

~~and that is to reduce bank erosion and collapse.~~<sup>(30)</sup> is a restricted discretionary activity, provided the following condition is met:

1. A Valley Floor Area River Bank Erosion Plan has been prepared in accordance with Schedule 24c and is submitted with the application for resource consent.

***The exercise of discretion is restricted to the following matters:***

1. The content and adequacy of the Valley Floor Area River Bank Erosion Plan; and
2. The content and characteristics of any deposited material; and
3. The species of any plant to be introduced ~~or planted or removed~~;<sup>(31)</sup> and
4. Effects on water quality, sources of human or animal drinking-water, aquatic ecosystems, ~~and inanga spawning habitat, the spawning habitat of other fish, and the timing of the activity~~;<sup>(32)</sup> and
5. Effects on mahinga kai or sites of importance to Ngāi Tahu; and
6. Effects on the flood carrying capacity of the river; and
7. Effects on fish passage; and
8. Effects on lawfully established structures and access to those structures; and
9. Effects on flood protection vegetation; and
10. Effects on the stability of river banks upstream and downstream of the activity; and
11. The potential benefits of the activity to the applicant, the community and the environment.

**10.5.3** Within the Valley Floor Area, the use of land in the riparian margin or the disturbance of the bed and banks of the ~~Ōōk~~kana, ~~Ōōk~~kuti and Takiritawai rivers and their tributaries, or ~~Lake Forsyth~~/Te Roto o Wairewa/ ~~Lake Forsyth~~, that is for the purpose of reducing bank erosion and collapse and that<sup>(33)</sup> includes:

- (a) planting or removal of vegetation; or
- (b) installation, maintenance, use and removal of a structure; or
- (c) installation, maintenance, use and removal of cables or wires and associated support structures; or

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<sup>29</sup> Minor amendment (Clause 16, Schedule 1 RMA) – relocated for clarity

<sup>30</sup> Minor amendment (Clause 16, Schedule 1 RMA)

<sup>31</sup> Director General of Conservation PC6 LWRP-4

<sup>32</sup> Director General of Conservation PC6 LWRP-4 & PC6-LWRP-55, Fish and Game PC6 LWRP-82 & PC6-LWRP-95

<sup>33</sup> Consequential amendment Clause 10 to Schedule 1 to the RMA

- (d) earthworks, including excavation; or
- (e) diversion of water; or
- (f) the incidental discharge of sediment-laden water into surface water, or into or onto land in circumstances where it may enter surface water; or
- (g) deposition of substances on, in or under the bed of a lake or river;  
~~and that is to reduce bank erosion and collapse.~~<sup>(34)</sup> and that does not meet the condition of Rule 10.5.2 is a non-complying activity.

### Stock Exclusion

*Note: Within the ~~Lake Forsyth~~/Wairewa catchment, and excluding the Valley Floor Area, Rules 5.68, ~~5.68B~~, 5.69, 5.70 and 5.71 apply.*

**10.5.4** Until 1 January 2020, within the Valley Floor Area, the use and disturbance of the bed (including the banks) of the ~~O~~Ōkana, ~~O~~Ōkuti, and Takiritawai rivers and their tributaries, or of ~~Lake Forsyth~~/Te Roto o Wairewa/~~Lake Forsyth~~ by stock, and any associated discharge to surface water is subject to Rules 5.68, ~~5.68B~~, 5.69, 5.70 and 5.71.

~~**10.5.5** From 1 January 2020, within the Valley Floor Area, the use and disturbance of the bed (including the banks), and the riparian margin of the ~~O~~Ōkana, ~~O~~Ōkuti, and Takiritawai rivers and their tributaries, and of Lake Forsyth / Te Roto o Wairewa by all stock, and any associated discharge to surface water is a prohibited activity.~~<sup>(35)</sup>

~~**10.5.5** Except as provided for in Rules 10.5.5A to 10.5.5C, from 1 January 2020, within the Valley Floor Area, the use and disturbance of the bed (including the banks) and the riparian margin of the ~~O~~Ōkana, ~~O~~Ōkuti, and Takiritawai rivers and their tributaries and of Te Roto o Wairewa/~~Lake Forsyth~~ by all stock, and any associated discharge to surface water is a prohibited activity.~~<sup>(36)</sup>

~~**10.5.5A** From 1 January 2020, within the Valley Floor Area, the use and disturbance of the riparian margin of the ~~O~~Ōkana, ~~O~~Ōkuti, and Takiritawai Rivers and their tributaries and of Te Roto o Wairewa/~~Lake Forsyth~~ by sheep is a restricted discretionary activity.~~

~~*The exercise of discretion is restricted to the following matters:*~~

- ~~1. Effects on the stability of river banks and erosion protection works; and~~
- ~~2. Effects on flood protection and riparian vegetation; and~~
- ~~3. Effects on water quality, sources of human or animal drinking-water aquatic ecosystems, inanga spawning habitat, the spawning habitat of other fish, and the timing of the activity; and~~
- ~~4. Effects on lawfully established structures or defences against water; and~~
- ~~5. The intensity, timing and duration of grazing; and~~
- ~~6. The positive benefits of the activity for controlling weeds; and~~
- ~~7. Effects on Ngāi Tahu cultural values and mahinga kai; and~~
- ~~8. The positive benefits of any proposed river bank stabilisation and erosion protection works~~<sup>(37)</sup>

<sup>34</sup> Consequential amendment Clause 10 to Schedule 1 to the RMA

<sup>35</sup> Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-118

<sup>36</sup> Herlihy M and M PC6 LWRP-83, Stanbury K PC6 LWRP-100,

<sup>37</sup> Herlihy M and M PC6 LWRP-83; Stanbury K PC6 LWRP-100, Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-117; Director General of Conservation PC6 LWRP-55; Fish and Game PC6 LWRP 95

**10.5.5B Within the Valley Floor Area where, prior to 20 April 2016, a permanent barrier, including fencing, has been established within the riparian margin no closer than 2 metres from the bed of a lake or river, and that barrier is maintained so that stock (excluding sheep) cannot pass through it, the use and disturbance of the riparian margin of the Ōkana, Ōkuti and Takiritawai Rivers and their tributaries and Te Roto o Wairewa/Lake Forsyth by stock on the landward side of that barrier is a permitted activity.**<sup>(38)</sup>

**10.5.5C Within the Valley Floor Area where, prior to 20 April 2016, permanent post and wire fencing has been established within the riparian margin and that fence is maintained, the use and disturbance of the riparian margin of the Ōkana, Ōkuti, and Takiritawai Rivers and their tributaries and of Te Roto o Wairewa/Lake Forsyth by sheep is a permitted activity provided that there is no evident damage to riparian planting and the riparian margin on the river side of the fence.**<sup>(39)</sup>

**Lake Forsyth / Te Roto o Wairewa / Lake Forsyth - Management and Investigations**

*Note: The Department of Conservation manages the bed of Lake Forsyth/Te Roto o Wairewa under the Conservation Act (1987) and should be consulted prior to undertaking any investigations in the lake bed to determine if authorisation is required under that Act.*<sup>(40)</sup>

*Note: It is expected that any person carrying out an activity in accordance with Rule 10.5.7 would consult with Wairewa Rūnanga before undertaking investigations.*<sup>(41)</sup>

**10.5.6 Within the Valley Floor Area, the use of land and the disturbance of the bed and riparian margin of a river or lake to construct, maintain or use a sediment basin and/or<sup>(42)</sup> wetland, and the associated deposition of substances, on, in, or under the bed, and any associated taking, using or diverting of surface water, or the discharge of sediment-laden water to surface water, is a discretionary activity.**

**10.5.7 The disturbance of the bed of ~~Lake Forsyth /~~ Te Roto o Wairewa / Lake Forsyth for the purpose of investigating legacy phosphorus, and the associated deposition of substances, on, in, or under the bed, or the discharge of sediment-laden water to surface water, is a permitted activity, provided the following conditions are met:**

1. The activity does not include the deposition of any substance, other than bed material, on the bed; and
2. The activity is undertaken more than 50m from any lawfully established surface water intake; or more than 150m from any lawfully established water level recorder; or closer where there is evidence that permission has been obtained from the owner of the intake or recorder; and
3. The activity and any associated equipment or materials do not obstruct or alter access to, or navigation on, the lake; and
4. The activity is not undertaken ~~in an inanga spawning site listed in Schedule 17; or undertaken~~<sup>(42A)</sup> in any inanga spawning habitat during the inanga spawning season of 1 March to 1 June inclusive; and
5. The activity does not restrict the passage of migratory fish species; and
6. The activity does not take place on a site listed as an archaeological site on the New Zealand Archaeological Association Site Recording Scheme website; and
7. The activity does not occur within 100m of birds which are nesting or rearing their young.

38 Consequential to Herlihy M and M PC6 LWRP-83; Stanbury K PC6 LWRP-100,

39 Consequential to Herlihy M and M PC6 LWRP-83; Stanbury K PC6 LWRP-100

40 Director General of Conservation PC6 LWRP-16

41 Wairewa Rūnanga and Te Rūnanga o Ngāi Tahu PC6 LWRP-119

42 Minor amendment (Clause 16, Schedule 1 RMA) Minor word change to give clarity to the intent of the rule.

42A Amendment consequential on LWRP PC4 Decisions

**10.5.8 The disturbance of the bed of ~~Lake Forsyth~~/Roto o Wairewa /Lake Forsyth for the purpose of investigating legacy phosphorus, and the associated deposition of substances, on, in, or under the bed, or the discharge of sediment-laden water to surface water, that does not meet one or more of the conditions of Rule 10.5.7 is a discretionary activity.**

**10.5.9 The use of land and the disturbance of the bed and riparian margins of ~~Lake Forsyth~~/Te Roto o Wairewa/Lake Forsyth for the purpose of opening or closing the lake, and the associated extraction and deposition of gravel, including the ancillary deposition of substances on the bed, the diverting of surface water, or the discharge of sediment-laden water to surface water, is a discretionary activity.**

## **10.6 Fresh Water Outcomes**

### **10.6 Allocation Limits**

#### **10.6.1 Environmental Flow and Allocation Limits**

~~See Rule 5.123.~~

#### **10.6.2 Groundwater Allocation Limits**

~~See Rule 5.128.~~

#### **10.6.3 Catchment Nutrient Load Limits and Allowances**

~~Nil. See 5.41 to 5.64.~~

The following tables set out the freshwater outcomes to be achieved in the ~~Lake Forsyth~~/Wairewa catchment by 2030. The freshwater outcomes for other areas in the Banks Peninsula Sub-region are set out in the Objectives in Section 3, and in Policies 4.1, 4.2, 4.3 and 4.4 [in Section 4 of this Plan](#).<sup>(43)</sup>

Table 10(a) Freshwater Outcomes for ~~Lake Forsyth~~ Wairewa Catchment Rivers to be achieved by 2030

Freshwater Management Unit	River type	River	Ecological HealthAttributes			Periphyton Attributes <sup>3</sup>		Siltation <sup>3</sup> Attribute	Human Health for Recreation Attributes				Cultural Attribute
			QMCI <sup>1</sup>	Dissolved oxygen [min % saturation] [min]	Temp [max] [°C]	Chlorophyll a maximum biomass [mg chl-a/m²] [no more than 17% of samples]	Filamentous algae >20mm [max cover of bed]	Fine sediment <2mm diameter [max cover of bed] (%)	Cyanobacteria	SFRG <sup>2</sup>	E.coli [E.coli/100mL]		
									a [% mat cover]				
									-	-			
Lake Forsyth/ Wairewa catchment	Banks Peninsula	Ōkūti River Ōkāna River - Takiritawai River	5	90%	20	120	20	20	30	Good	260	260	Freshwater mahinga kai species sufficiently abundant for customary gathering, water quality is suitable for their safe harvesting, and they are safe to eat.

<sup>1</sup> QMCI = Quantitative macro invertebrate community index.

<sup>2</sup> SFRG = Suitability for Recreation Grade from Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas 2003.

<sup>3</sup> These attributes only apply to wadeable areas of wetted riverbed. For the purposes of this table, wadeable areas are defined as reaches of the river up to 600mm in depth.

**Table 10(b) Freshwater Outcomes to be achieved for ~~Lake Forsyth~~/ Te Roto o Wairewa/~~Lake Forsyth~~ by 2030**

Lake Type	Ecological health Attributes				Eutrophication <sup>[44]</sup>	Visual Quality Attribute		Human Health for Recreation Attributes				Cultural Attribute
	Dissolved Oxygen (min)		Temp.(max)	Lake SPI <sup>1</sup>	Attribute TLI <sup>2</sup> (max) [max annual average]	(Colour)	(Macrophytes)	Cyanobacteria [either mm <sup>3</sup> /L or cells/mL] [80 <sup>th</sup> percentile]	SFRG	E.coli [E.coli/100ml]		
	Hypo-limnion	Epilimnion	[°C] <sup>[45]</sup>	[min grade]						Annual median	95 <sup>th</sup> percentile	
	saturation [%]	saturation [%]										
Coastal lake	70	90	19	Moderate	65 <sup>(46)</sup>	The natural colour of the lake is not degraded by more than 5 Munsell units	The spatial extent of native macrophyte beds is showing an increasing trend <sup>(47)</sup>	1.8	Good	260	260	Freshwater mahinga kai species sufficiently abundant for customary gathering, water quality is suitable for their safe harvesting, they are safe to eat.

<sup>1</sup> Lake SPI = Lake Submerged Plant Indicators from Clayton J, Edwards T (2002) Lake SPI: a method for monitoring ecological condition in New Zealand lakes (Technical report version 1 by NIWA).

<sup>2</sup> TLI = Trophic Level Index from: Protocol for Monitoring Trophic Levels of New Zealand lakes and reservoirs (Report by Lakes Consulting, March 2000). The scale is from less than 1 (very low nutrients) to more than 7 (very high nutrients). The TLI is calculated at TLI3 (using TP, TN and Chl. a.).

<sup>3</sup> SFRG = Suitability for Recreation Grade from: Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas, Ministry for the Environment, June 2003.

<sup>44</sup> Minor amendment (Clause 16, Schedule 1 RMA)

<sup>45</sup> Minor amendment (Clause 16, Schedule 1 RMA)

<sup>46</sup> Minor amendment (Clause 16, Schedule 1 RMA) - For consistency between Table 10(b) and Table 10(e)- refer Recommendation Report

<sup>47</sup> Director General of Conservation PC6 LWRP-49

## 10.7 Environmental Flow and Allocation Regime and Water Quality Targets/Limits

### 10.7 — Flow Sensitive Catchments

The following are to be applied when reading relevant policies and rules in Sections 4 and 5.

Catchment (see Planning Maps)	Sensitive part of catchment	Monitoring site — lower boundary of catchment
Dick Stream	Whole catchment	Confluence with Pigeon Bay Stream
Pawson Valley Stream	Whole catchment	Christchurch/Akaroa Road (State Highway 75)
Pipers Valley Stream (Duvauchelle)	Whole catchment	Governors Bay/Teddington Road and Allandale
Allandale Stream (Smarts Road Drain)	Whole catchment	Christchurch /Akaroa Road (State Highway 75)
French Farm Stream	Whole catchment	French Farm Valley Road recorder above Christchurch /Akaroa Road (State Highway 75)
Takamatua Stream	Whole catchment	Christchurch /Akaroa Road (State Highway 75)
Okuti River	Whole catchment	Kinloch Road Bridge
Okana River	Whole catchment	Christchurch /Akaroa Road (State Highway 75)
Pigeon Bay Stream	Whole catchment	Pigeon Bay Road
Police Stream	Whole catchment	Christchurch /Akaroa Road (State Highway 75)

### 10.7.1 Environmental Flow Regime

Rules 5.123-5.125 (Minimum flows and allocation limits) and Table 10(c) apply in the [Lake Forsyth / Wairewa](#) catchment.

Table 10(c) [Lake Forsyth / Wairewa](#) Catchment Environmental Flow and Allocation Limits

Surface water body	Minimum flow recorder site Topo 50 Map Reference <sup>(48)</sup>	Minimum flow (L/s)	Allocation limit (L/s)	Restrictions	
				Reduce take by	Flow rate at site recorder (L/s) <sup>(49)</sup>
Okuti River and its tributaries	Okuti River at Kinloch Road Bridge: map reference <a href="#">N36:93499-13299</a> <a href="#">BY24:83495-51700</a> <sup>(50)</sup>	59	20	25%	79
				50%	69
				100%	59
Okana River, Takiritawai River and their tributaries	Okana River at Kinloch Road Bridge SH75: map reference <a href="#">N36:93059-14759</a> <a href="#">BX24:83650-54230</a> <sup>(51)</sup>	97	32	25%	129
				50%	113
				100%	97

### 10.7.2 Groundwater Allocation Limits

See Rule 5.128.

<sup>48</sup> Minor amendment (Clause 16, Schedule 1 RMA)

<sup>49</sup> Minor amendment (Clause 16, Schedule 1 RMA)

<sup>50</sup> Minor amendment (Clause 16, Schedule 1 RMA)

<sup>51</sup> Minor amendment (Clause 16, Schedule 1 RMA)

### 10.7.3 Water Quality Limits and Targets

For rivers and the lake in the ~~Lake Forsyth~~/Wairewa catchment, the water quality limits in Table 10(d) and the water quality limits and targets in Table 10(e) prevail over the region wide limits in Schedule 8.

The National Policy Statement for Freshwater Management 2014 defines a target as a limit to be met within a defined timeframe. Targets for ~~Lake Forsyth~~/Te Roto o Wairewa/~~Lake Forsyth~~ in Tables 10(e) and 10(f) are to be met by 2030.

Groundwater limits for the ~~Forsyth~~/Wairewa catchment, and limits for all waterbodies in other areas in the Banks Peninsula Sub-region, are set out in Schedule 8.

**Table 10(d) Water Quality Limits for Rivers in the ~~Lake Forsyth~~/Wairewa Catchment**

Freshwater Management Unit	River type	River name and measurement location <del>Topo 50 Map Reference</del> <sup>(51A)</sup>	Nitrate-Nitrogen concentration (mg/L)		Ammoniacal Nitrogen concentration (mg/L)	
			Annual median	95 <sup>th</sup> percentile	Annual median <sup>1</sup>	Annual maximum <sup>1</sup>
<del>Lake Forsyth</del> /Wairewa catchment	Banks Peninsula	<del>Ōkuti River at Kinloch Road Bridge SH75: map reference 2493700E, 5715750N</del> <del>BY24:83495-51700</del> <sup>(52)</sup>	0.2	0.5	0.03	0.05
	Banks Peninsula	<del>Ōkana River at SH75 Kinloch bridge: map reference 2493550E, 5713800N</del> <del>BX24:83650-54230</del> <sup>(53)</sup>	0.2	0.5	0.03	0.05

<sup>1</sup> Based on pH 8 and temperature 20°C. Compliance with the numeric attribute states should be undertaken after pH adjustment.

**Table 10(e) Water Quality Limits, and Targets to be achieved by 2030, for ~~Lake Forsyth~~/Te Roto o Wairewa/~~Lake Forsyth~~**

Lake type	Lake name and measurement location <del>Topo 50 Map Reference</del> <sup>(54)</sup>	Targets				Limits	
		Total Phosphorus (TP) concentration [mg/m <sup>3</sup> ] [annual median]	Total Nitrogen concentration [mg/m <sup>3</sup> ] [annual median]	Chlorophyll a concentration (mg/m <sup>3</sup> )		Ammoniacal Nitrogen concentration (mg/L)	
				Annual median	Annual maximum	Annual median <sup>1</sup>	Annual maximum <sup>1</sup>
Coastal lake	<del>Lake Forsyth/Te Roto o Wairewa/ Lake Forsyth at Recorder-Catons Bay: map reference 2481828E, 5754717N</del> <del>BY24:78799-50315</del> <sup>(54)</sup>	50	800	12	60	0.03	0.05

<sup>1</sup> Based on pH 8 and temperature 20°C. Compliance with the numeric attribute states should be undertaken after pH adjustment.

<sup>51A</sup> Minor amendment (Clause 16, Schedule 1 RMA)

<sup>52</sup> Minor amendment (Clause 16, Schedule 1 RMA)

<sup>53</sup> Minor amendment (Clause 16, Schedule 1 RMA)

<sup>54</sup> Minor amendment (Clause 16, Schedule 1 RMA)



**Table 10(f) Total Phosphorus Load Target for for ~~Lake Forsyth~~/ Te Roto o Wairewa/~~Lake Forsyth~~ to be achieved by 2030**

Measurement	Target
Annual load (kg) <sup>1</sup>	2,600

<sup>1</sup> Annual load (kg) – means the annual load of phosphorous entering the Lake as calculated by Dr T Davie in Environment Canterbury memorandum dated 15 July 2015 <sup>(54A)</sup>

## **10.8 Flow Sensitive Catchments**

The following are to be applied when reading relevant policies and rules in Sections 4 and 5.

Catchment (see Planning Maps)	Sensitive part of catchment	Monitoring site – lower boundary of catchment
<u>Dick Stream</u>	<u>Whole catchment</u>	<u>Confluence with Pigeon Bay Stream</u>
<u>Pawson Valley Stream</u>	<u>Whole catchment</u>	<u>Christchurch/Akaroa Road (State Highway 75)</u>
<u>Pipers Valley Stream (Duvauchelle)</u>	<u>Whole catchment</u>	<u>Governors Bay/Teddington Road and Allandale</u>
<u>Allandale Stream (Smarts Road Drain)</u>	<u>Whole catchment</u>	<u>Christchurch /Akaroa Road (State Highway 75)</u>
<u>French Farm Stream</u>	<u>Whole catchment</u>	<u>French Farm Valley Road recorder above Christchurch /Akaroa Road (State Highway 75)</u>
<u>Takamatua Stream</u>	<u>Whole catchment</u>	<u>Christchurch /Akaroa Road (State Highway 75)</u>
<u>Ōkūti River</u>	<u>Whole catchment</u>	<u>Kinloch Road Bridge</u>
<u>Ōkana River</u>	<u>Whole catchment</u>	<u>Christchurch /Akaroa Road (State Highway 75)</u>
<u>Pigeon Bay Stream</u>	<u>Whole catchment</u>	<u>Pigeon Bay Road</u>
<u>Police Stream</u>	<u>Whole catchment</u>	<u>Christchurch /Akaroa Road (State Highway 75)</u>

## **10.9 High Naturalness Waterbodies**

Nil.

## **10.10 Schedules**

### **Schedule 24c Valley Floor Area River Bank Erosion Plan**

A Valley Floor Area River Bank Erosion Plan must:

1. include a map(s) and aerial and other photograph(s) at a scale that clearly shows:
  - (a) the area where activities to stabilise river banks will be undertaken, including a photograph of the view immediately upstream and downstream of the area of proposed activity; and
  - (b) the location of existing riparian vegetation and fences adjacent to surface water bodies within the proposed works area; and
2. describe the proposed works, including any earthworks, contouring of river banks, anchored and/or weighted tree protection, and vegetation removal and planting, to stabilise the river banks and reduce bank erosion and collapse; and
3. describe the maintenance programme including the nature and frequency of expected works, and the period over which maintenance is expected to be required; and
4. describe the actions that will occur after flood events, the timing of those actions, and the responsibility for undertaking the actions, to ensure the effectiveness of the activities described in (2) above is maintained; and
5. provide an assessment of the effects of the proposed activities at a level of detail commensurate with the scale and significance of the effects, on:
  - (a) water quality of surface waterbodies, sources of human or animal drinking-water, aquatic ecosystems,<sup>(55)</sup> ~~and inanga-spawning sites, the spawning habitat of other fish, and inanga-spawning habitat;~~<sup>(56)</sup> and
  - (b) the flood carrying capacity of the river; and
  - (c) mahinga kai or sites of importance to Ngāi Tahu; and
  - (d) fish passage; and
  - (e) lawfully established structures and access to those structures; and
  - (f) flood protection vegetation; and
  - (g) river bank stability, including the stability of neighbouring or downstream banks and any adjacent installed erosion control measures; and
  - (h) surface water flowpaths and any deflection of surface run-off, including the potential for it to be deflected onto other properties.

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55 Minor amendment (Clause 16, Schedule 1, RMA) - to insert comma

56 Director General of Conservation PC6 LWRP-55, Fish and Game PC6 LWRP-95

## 10.11 ~~Lake Forsyth~~ Waiwera Additions to Planning Maps

