

6 June 2013

Otago Regional Council  
Private Bag 1954  
DUNEDIN 9054

Attention: Fraser McRae



**OTAGO REGIONAL COUNCIL PLAN CHANGE 6A – APPEAL BY NORTH OTAGO IRRIGATION COMPANY LIMITED**

We note that an Appendix Plan Change 6A Officers Report marked up version with changes referred to in the Notice of Appeal may not have been **attached** to the Appeal documents and we now forward this accordingly.

Can you please ensure this is added to the Notice of Appeal as forwarded to you accordingly.

Yours faithfully

**BERRY & CO**

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Partner

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Encl.

**Oamaru Partners**

George Berry *MNZM, LL.B.*  
David Salter *BA, LL.B.*  
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**Queenstown Partners**

Revell Buckham *LL.B.*  
  
Matthew Edwards *LL.B.*  
Merrin Gill *LL.B.*

**IN THE ENVIRONMENT COURT  
CHRISTCHURCH REGISTRY**

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

**AND**

**IN THE MATTER** of an appeal pursuant to Clause 14 of the Act

**BETWEEN** **NORTH OTAGO IRRIGATION COMPANY  
LIMITED**

Appellant

**AND** **OTAGO REGIONAL COUNCIL**

Respondent

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**ATTACHMENT TO NOTICE OF APPEAL**

**APPENDIX PLAN CHANGE 6A OFFICERS REPORT  
MARKED UP VERSION WITH CHANGES REQUESTED**

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**Address for service of Appellant:**

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Oamaru 9400

Attention: George Berry/David Jackson  
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**Appendix B**  
**Proposed Plan Change 6A**  
**(Water Quality)**

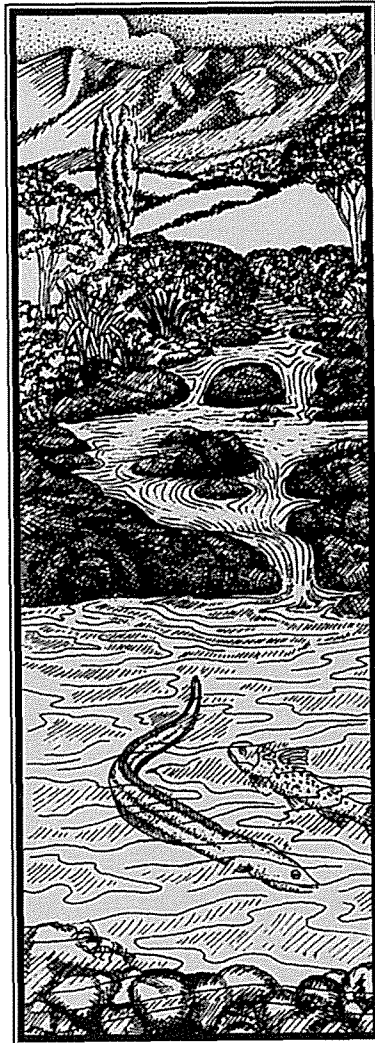
**Regional**  
**Plan: Water**  
**for Otago**

**Incorporating amendments recommended by  
Officers' Report on Decisions Requested**  
Changes shown compare all recommended changes (as notified, and as  
recommended in Officers' Report) to the Operative Water Plan  
(single ~~strikethrough~~ and underline)

**Incorporating changes sought in Louise Taylor evidence for Waitaki  
Irrigators Collective Ltd and others October 2012**  
Changes shown compare changes sought to relevant parts of the Operative Water  
Plan as recommended in Officers' Report  
(single ~~strikethrough~~ and double underline)

# 7

## Water Quality



## WATER QUALITY

**NOTE: Louise Taylor recommended amendments shown in double underlined text. Only those provisions discussed in evidence included except where stated otherwise.**

### Issues

1. Good overall water quality in Otago is important for supporting natural and human use values.
2. Water quality has the potential to be degraded if discharges contain high levels of contaminants.

### 7.5A Objectives

~~7.5.17.A.1 To maintain or enhance the~~ have good overall quality of water in Otago's lakes and rivers that so that it is suitable to supports their natural and human use values, for present and future generations and people's use of water.

7.A.2 To maintain water quality in Otago lakes and rivers, and enhance water quality where it has been degraded.

7.A.3 To have individuals and communities manage the effects of their activities to achieve good quality water in Otago water bodies.

Comment [LET1]: No comment made on this policy. Included for completeness only.

### 7.B Policies general

7.B.1 Achieve good quality water, as described in Schedule 15, in Otago lakes and rivers by the dates specified in that schedule, by:

- (a) Avoiding discharges of contaminants that give rise to significant adverse effects on risk natural and human use values ~~not being maintained~~; and
- (b) Allowing discharges of contaminants that cumulatively have minor effects, or are short-term; and
- (c) Minimising disturbance of the beds of lakes and rivers; and
- (d) Promoting discharges of contaminants to land in preference to water; and
- (e) Encouraging adaptive management and innovation to reduce the discharge and impact of contaminants on water quality.

7.B.2 [Moved from 7.7.2] When considering the discharge of any contaminant to land, ~~to~~ have regard to:

2. Proposed Plan Change 6A (Water Quality) to the Regional Plan: Water for Otago Incorporating changes recommended in Officers' Report 22 August 2012 Incorporating changes sought in Louise Taylor evidence for Waitaki Irrigators Collective Ltd and others October 2012

## WATER QUALITY

- (a) The ability of the land to assimilate the discharge ~~contaminant~~;
- (b) Any potential for soil contamination; ~~and~~
- (c) ~~Any potential for land instability~~ Potential effects on water bodies; ~~and~~;
- (d) Potential human use costs and benefits of the discharge.

**7.B.3** When water is discharged from one catchment to another, recognise tangata whenua values and prevent adverse effects from introducing aquatic species to new catchments.

Comment [LET2]: No comment made on this policy. Included for completeness only.

**7.C** Policies for discharges of human sewage, hazardous substances, hazardous wastes, stormwater and other specified contaminants, and discharges from industrial and trade premises

Comment [LET3]: No comment made on this policy. Included for completeness only.

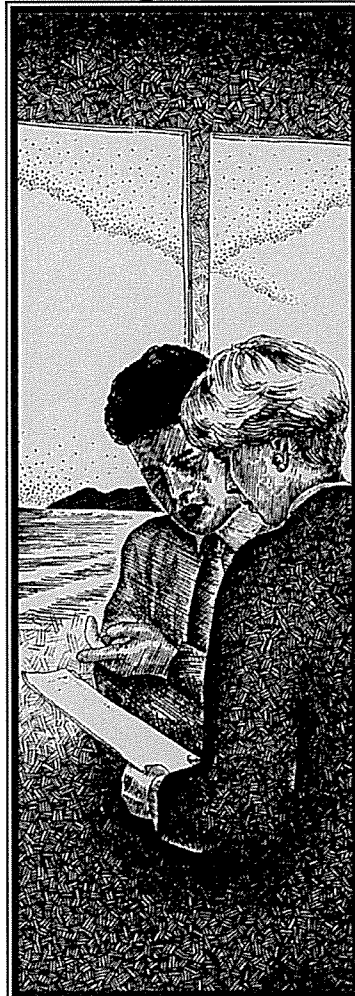
**7.D** Policies for discharges of water and contaminants (excluding those in 7.C)

**7.D.1** When considering the discharge of water or any contaminant to water, or to land in circumstances where it may enter water, have regard to:

- (a) The nature, scale and intensity of the effect of the discharge, including on natural and human use values;
- (b) The implementation of adaptive management to address any adverse effect of the discharge on water quality;
- (c) The timeframe required to implement changes to discharge management or infrastructure;
- (d) Trialling innovative practices or new technologies for improving discharge quality.

# 12

## Rules: Water Take, Use and Management



**NOTE: ONLY RULE SERIES 12.C LISTED HERE.**

**12.C Other discharges**

Note: General rules in section 12AA describe how the discharge rules in section 12.C apply. An activity that is prohibited under rules in section 12.C.0 is not permitted elsewhere in section 12C.

**12.C.0 Prohibited activities: No resource consent will be granted**

12.C.0.1 Any discharge of contaminant to water, that:

(i) Causes:

(a) An objectionable odour; or

(b) A conspicuous oil or grease film, scum, or foam to develop on water; or

(ii) Has floatable material;

is a *prohibited* activity.

12.C.0.2 Any discharge of sediment from disturbed land to water, if no measure has been taken to prevent sediment runoff, is a *prohibited* activity.

12.C.0.3 Any discharge of contaminant from an animal waste system, silage storage or a composting process:

(i) Directly to water; or

(ii) To saturated land; or

(iii) To a conduit to water; or

(iv) To the bed of any lake or river, or Regionally Significant Wetland; or

(v) Within 50 metres of any surface water body; or

(vi) Within 50 metres of any of any bore used to supply water for domestic drinking needs or drinking water for livestock; or

(vii) That results in ponding;

is a *prohibited* activity.

**12.C.1 Permitted activities: No resource consent required**

12.C.1.1 The discharge of water or any contaminant to water is a *permitted* activity, providing:

(a) Any sediment in the discharge does not result in:

(i) A noticeable conspicuous visual change in colour or clarity in receiving water; or

(ii) Noticeable local sedimentation in receiving water; or  
after rain has ceased on the site; and

6 *Proposed Plan Change 6A (Water Quality) to the Regional Plan: Water for Otago Incorporating changes recommended in Officers' Report 22 August 2012 Incorporating changes sought in Louise Taylor evidence for Waitaki Irrigators Collective Ltd and others October 2012*



RULES: WATER TAKE, USE AND MANAGEMENT

- ~~(b) Any contaminant listed in Schedule 16 does not exceed the limits given in that schedule, more than twelve XX hours after rain has ceased on the site, where the contaminant is about to enter water; and~~
- ~~(e) It does not have an odour, oil or grease, film, scum or foam where it is about to enter water; and~~
- ~~(d) It does not result in flooding, erosion, land instability or property damage; and~~
- ~~(e) Water does not discharge from one catchment to water in another; and~~
- ~~(f) It is no more than 3° Celsius warmer than the temperature of the receiving water; and~~
- ~~(g) No Regionally Significant Wetland has its water level range or hydrological function altered by the discharge; and~~
- ~~(h) It is not from a dam:
  - ~~(i) Used for the storage of contaminants; or~~
  - ~~(ii) That requires consent under Rules 12.3.3.1, 12.3.4.1, 12.3.5.1 or 12.3.5.2.~~~~

**Comment [LET4]:** Delete and re-work to alleviate concerns listed in Louise Taylor evidence; allow for 12 month testing to establish compliance with Schedule 16.

12.C.1.2 The discharge of any contaminant listed in Schedule 16 to land is a **permitted** activity.

12.C.1.3 The discharge of nitrogen<sup>1</sup> from land to groundwater, is a **permitted** activity, providing:

- ~~(a) From 31 March 2019, nitrogen leaching calculated by the Council using OVERSEER<sup>®</sup> version 6.0, does not exceed an average of:
  - ~~(i) 10 kilograms nitrogen per hectare per year over any nitrogen sensitive zone identified in Maps 15-16; and~~
  - ~~(ii) 20 kilograms nitrogen per hectare per year over any nitrogen sensitive zone identified in Maps 11-14~~
  - ~~(iii) 30 kilograms nitrogen per hectare per year elsewhere in Otago; and~~~~
- (b) Upon request, the person with responsibility for the management of the land will supply the Council with all necessary annual input data to run OVERSEER<sup>®</sup> version 6.0.

**Comment [LET5]:** Delete and replace with rule requiring compliance with new Schedule 17.

12.C.1.4 Notwithstanding Rule 12.C.1.1, the discharge of water or any contaminant from:

- (i) a dam permitted under Rule 12.3.2.1; or
  - (ii) a water supply open race,
- to water, or to a Regionally Significant Wetland, is a **permitted** activity, providing:
- (a) Water does not discharge from one catchment to water in another; and
  - (b) The dam is not used for the storage of contaminants; and

<sup>1</sup> Nitrogen comprises of organic nitrogen, ammoniacal nitrogen, nitrite nitrogen and nitrate nitrogen forms.

*Proposed Plan Change 6A (Water Quality) to the Regional Plan: Water for Otago  
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RULES: WATER TAKE, USE AND MANAGEMENT

- (c) The presence of contaminants does not result from the purpose and function of the damming activity; and
- (d) Any water supply open race conveying irrigation runoff does not discharge to a water body; and
- (e) It is no more than 3° Celsius warmer than the temperature of the receiving water; and
- (f) No Regionally Significant Wetland has its water level range, or hydrological function altered by the discharge.

**12.C.2 Restricted discretionary activities: Resource consent required**

12.C.2.1 A permitted activities which does not comply with performance standards is a restricted discretionary activity.

The discharge of:

(i) Sediment to water; or

(ii) Contaminants listed in Schedule 16 to water, where the discharge:

(1) First occurred prior to 31 March 2012, and changes to land management or infrastructure have been unsuccessful in meeting the limits in Schedule 16; or

(2) Results from a short-term activity with a short-term adverse effect; or

(iii) Nitrogen from land to groundwater;

unless:

(a) It is prohibited by a rule in 12.C.0; or

(b) It is permitted by a rule in 12.C.1; or

(c) It discharges water from one catchment to water in another catchment.

The matters to which the Council will restrict its discretion are:

(a) The nature, type, volume, frequency, concentration of contaminants in the discharge; and

(b) In the case of applications ~~made under (ii)~~, for discharges to surface water how discharge limits in Schedule 16 will be achieved within a set timeframe; ~~and or~~

(c) In the case of applications for discharges to surface water why discharge limits are not applicable to the discharge sought; and

~~(ba) In the case of applications made under (iii), how calculated average nitrogen leaching limits described in Rule 12.C.1.3 will be achieved within a set timeframe; and~~

~~(d) In the case of discharges into groundwater which exceed Schedule 17 concentrations, how discharge concentrations in Schedule 17 will be achieved in a set timeframe, or~~

~~(e) In the case of discharges into groundwater which exceed Schedule 17 concentrations, why discharge concentrations in Schedule 17 are not applicable to the discharge sought, and~~

~~(f) Any quality management practices to be implemented; and~~

~~(dg) Any changes to infrastructure; and~~

RULES: WATER TAKE, USE AND MANAGEMENT

- (eh) Addressing any adverse effects on water quality, including cumulative effects; and
- (æi) Any adverse effect of the discharge on any natural or human use value; and
- (fi) Any effect on any Regionally Significant Wetland or on any regionally significant wetland value; and
- (gk) The likelihood of erosion, land instability, sedimentation or property damage resulting from the discharge; and
- (hl) Any financial contribution for any Regionally Significant Wetland or on any regionally significant wetland value; and
- (im) The information and monitoring requirements; and
- (in) The duration of the resource consent; and
- (ko) The review of conditions of the resource consent.

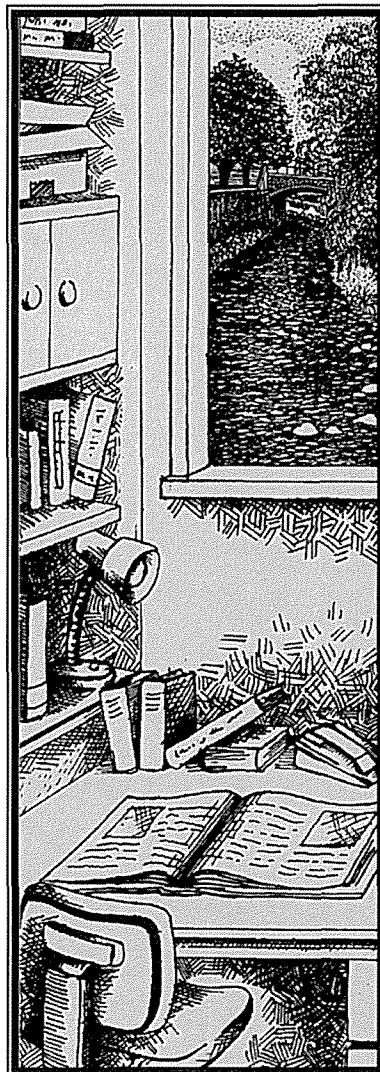
The Consent Authority is precluded from giving public notification of an application for a resource consent under this rule.

**12.C.3 Discretionary activities: Resource consent required**

12.C.3.1 The discharge of water or contaminants, to:

- (i) ~~Water; or~~
  - (iii) A Regionally Significant Wetland,
- is a *discretionary* activity, unless:
- (a) It is prohibited by a rule in 12.C.0; or
  - (b) It is permitted by a rule in 12.C.1; or
  - (c) It is provided for by Rule 12.C.2.1.

# Schedules



SCHEDULE 15: GOOD QUALITY WATER

**15 Schedule of good quality water in Otago lakes and rivers**

**Table 15.1 Indicative characteristics of good quality water**

<u>Characteristic</u>	<u>Description</u>
<u>Clarity</u>	Water is clear: able to easily and clearly see the bed when standing in knee-deep water. Naturally occurring scums and foams only.
<u>Colour</u>	Water is colour-free, however, some rivers are naturally tannin-stained e.g. The Catlin, Taieri, Waitahuna and Tokomairiro Rivers.
<u>Algae</u>	Healthy levels of algae: <ul style="list-style-type: none"> <li>▪ Do not cover more than 30% of the bed.</li> <li>▪ Strands are less than 20 mm in length.</li> <li>▪ No slime on the surface of the water.</li> </ul>
<u>Sediment</u>	Riffles and runs free of obvious mud and silt deposits. Walking across a riffle or run should not produce an obvious plume. However, some rivers are naturally high in sediment e.g. the Dart and Shotover Rivers.
<u>Smell</u>	Water is odourless, however, water in some wetlands may have a naturally earthy smell.
<u>Bank</u>	Functioning riparian margins: <ul style="list-style-type: none"> <li>▪ Vegetation is healthy and not stripped bare.</li> <li>▪ Banks are stable.</li> <li>▪ No obvious livestock disturbance.</li> </ul>

**Table 15.2 Receiving water numerical standards and timeframes by surface water catchment for good quality water**

<u>Receiving water Group 1</u>	<u>Nitrate-nitrite nitrogen<sup>1</sup></u>	<u>Dissolved reactive phosphorus<sup>1</sup></u>	<u>Ammoniacal nitrogen<sup>2</sup></u>	<u>Escherichia coli<sup>3</sup></u>	<u>Turbidity<sup>4</sup></u>
	<u>0.444 mg/L</u>	<u>0.026 mg/L</u> <u>0.03 mg/L</u>	<u>0.1 mg/L</u> <u>0.2 mg/L</u>	<u>126 cfu/100 ml</u>	<u>5 NTU</u>
<u>Catlins</u>	<u>31 March 2012</u>				
<u>Carey's Creek</u>	<u>31 March 2012</u>				
<u>Kaikorai</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2017</u>	<u>31 March 2012</u>
<u>Leith</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2017</u>	<u>31 March 2012</u>
<u>Mokoreta (within Otago)</u>	<u>31 March 2019</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2017</u>	<u>31 March 2012</u>
<u>Owaka</u>	<u>31 March 2019</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2017</u>	<u>31 March 2012</u>
<u>Pomahaka</u>	<u>31 March 2019</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>
<u>Tahakopa</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2017</u>	<u>31 March 2012</u>
<u>Tokomairiro</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2017</u>	<u>31 March 2012</u>
<u>Tuapeka</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2017</u>	<u>31 March 2012</u>
<u>Waitahuna</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2017</u>	<u>31 March 2012</u>
<u>Waitati</u>	<u>31 March 2012</u>				

**Comment [LET6]:** Extend dates to reflect NPS; Re-categorise Waiareka Stream and Waitaki Tributaries as part of Group 1.

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SCHEDULE 15: GOOD QUALITY WATER

<u>Receiving water Group 1</u>	<u>Nitrate-nitrite nitrogen<sup>1</sup></u>	<u>Dissolved reactive phosphorus<sup>1</sup></u>	<u>Ammoniacal nitrogen<sup>2</sup></u>	<u>Escherichia coli<sup>3</sup></u>	<u>Turbidity<sup>4</sup></u>	
	<u>0.444 mg/L</u>	<del><u>0.026 mg/L</u></del> <u>0.03 mg/L</u>	<del><u>0.1 mg/L</u></del> <u>0.2 mg/L</u>	<u>126 cfu/100 ml</u>	<u>5 NTU</u>	
Waiwera	<u>31 March 2019</u>	<u>31 March 2017</u>	<u>31 March 2012</u>	<u>31 March 2017</u>	<u>31 March 2012</u>	
Any other unlisted tributary on the true right bank of the Clutha/Mata-Au, south of Judge Creek						
Any other unlisted catchment that discharges to the coast, south of Taieri Mouth						<u>31 March 2012</u>
Any other unlisted tributary on the true left bank of the Clutha/Mata-Au, south of the Tuapeka catchment						

<u>Receiving water Group 2</u>	<u>Nitrate-nitrite nitrogen<sup>1</sup></u>	<u>Dissolved reactive phosphorus<sup>1</sup></u>	<u>Ammoniacal nitrogen<sup>2</sup></u>	<u>Escherichia coli<sup>3</sup></u>	<u>Turbidity<sup>4</sup></u>
	<del><u>0.075 mg/L</u></del> <u>0.1 mg/L</u>	<u>0.006 mg/L</u>	<u>0.1 mg/L</u>	<u>126 cfu/100 ml</u>	<u>5 NTU</u>
Cardrona	<u>31 March 2012</u>				
Fraser	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>
Kakanui	<u>31 March 2019</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>
Kawarau downstream of the Shotover confluence and Clutha/Mata-Au and any other unlisted tributary (Luggate to mouth, including Lakes Dunstan and Roxburgh, and	<u>31 March 2012, except Lake Dunstan which has until 31 March 2019 to comply with nitrate-nitrite nitrogen</u>				

*Proposed Plan Change 6A (Water Quality) to the Regional Plan: Water for Otago  
Incorporating changes recommended in Officers' Report 22 August 2012*

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October 2012*

SCHEDULE 15: GOOD QUALITY WATER

Receiving water Group 2	Nitrate-nitrite nitrogen <sup>1</sup>	Dissolved reactive phosphorus <sup>1</sup>	Ammoniacal nitrogen <sup>2</sup>	Escherichia coli <sup>3</sup>	Turbidity <sup>4</sup>
	<u>0.075 mg/L</u> <u>0.1 mg/L</u>	<u>0.006 mg/L</u>	<u>0.1 mg/L</u>	<u>126 cfu/100 ml</u>	<u>5 NTU</u>
excluding tributaries described in Group 1)					
Lindis	31 March 2012				
Luggate	<u>31 March 2012</u>	<u>31 March 2017</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>
Manuherikia	<u>31 March 2012</u>	<u>31 March 2017</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>
Mill Creek (tributary to Lake Hayes)	<u>31 March 2019</u>	<u>31 March 2017</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>
Shag	<u>31 March 2019</u>	<u>31 March 2017</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>
Shotover	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>Exempt</u>
Taieri	<u>31 March 2012</u>	<u>31 March 2017</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>
Trotters	<u>31 March 2019</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>
Waianakarua	<u>31 March 2019</u>	<u>31 March 2017</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>
Waikouaiti	31 March 2012				
Waipori	31 March 2012				
Waitaki tributaries within Otago	<u>31 March 2019</u>	<u>31 March 2017</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>
Any other unlisted catchment that discharges to the coast, north of Taieri Mouth	31 March 2012				

Receiving water Group 3	Total nitrogen <sup>1</sup>	Total phosphorus <sup>1</sup>	Ammoniacal nitrogen <sup>2</sup>	Escherichia coli <sup>3</sup>	Turbidity <sup>4</sup>
	<u>0.725 mg/L</u>	<u>0.043 mg/L</u>	<u>0.1 mg/L</u>	<u>126 cfu/100 ml</u>	<u>5 NTU</u>
Lake Hayes	31 March 2012				
Lake Johnston					
Lake Onslow					
Lake Tuakitoto					
Lake Waipori & Waihola					

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SCHEDULE 15: GOOD QUALITY WATER

<u>Receiving water Group 4</u>	<u>Nitrate-nitrite nitrogen</u> <sup>1</sup>	<u>Dissolved reactive phosphorus</u> <sup>1</sup>	<u>Ammoniacal nitrogen</u> <sup>2</sup>	<u>Escherichia coli</u> <sup>3</sup>	<u>Turbidity</u> <sup>4</sup>
	<u>0.03 mg/L</u>	<u>0.005 mg/L</u>	<u>0.01 mg/L</u>	<u>10 cfu/100 ml</u>	<u>3 NTU</u>
<u>Clutha/Mata-Au (above Luggate)</u> <u>Kawarau upstream of the Shotover confluence</u> <u>Any tributaries to Lakes Hawea, Wakatipu, and Wanaka</u>	<u>31 March 2012</u>				
<u>Dart</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>Exempt</u>
<u>Matukituki</u>	<u>31 March 2019</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>31 March 2012</u>	<u>Exempt</u>

<u>Receiving water Group 5</u>	<u>Total Nitrogen</u>	<u>Total Phosphorus</u>	<u>Ammoniacal nitrogen</u> <sup>2</sup>	<u>Escherichia coli</u> <sup>3</sup>	<u>Turbidity</u> <sup>4</sup>
	<u>0.157 mg/L</u>	<u>0.009 mg/L</u>	<u>0.01 mg/L</u>	<u>10 cfu/100 ml</u>	<u>3 NTU</u>
<u>Lake Hawea</u> <u>Lake Wakatipu</u> <u>Lake Wanaka</u>	<u>31 March 2012</u>				

mg/L = milligrams per litre

cfu/100 ml = colony-forming units per 100 millilitres

NTU = nephelometric turbidity units

<sup>1</sup> Promotes periphyton growth

<sup>2</sup> Indicates effluent contamination

<sup>3</sup> Indicator of pathogens present

<sup>4</sup> Measure of clarity



SCHEDULE 15: GOOD QUALITY WATER

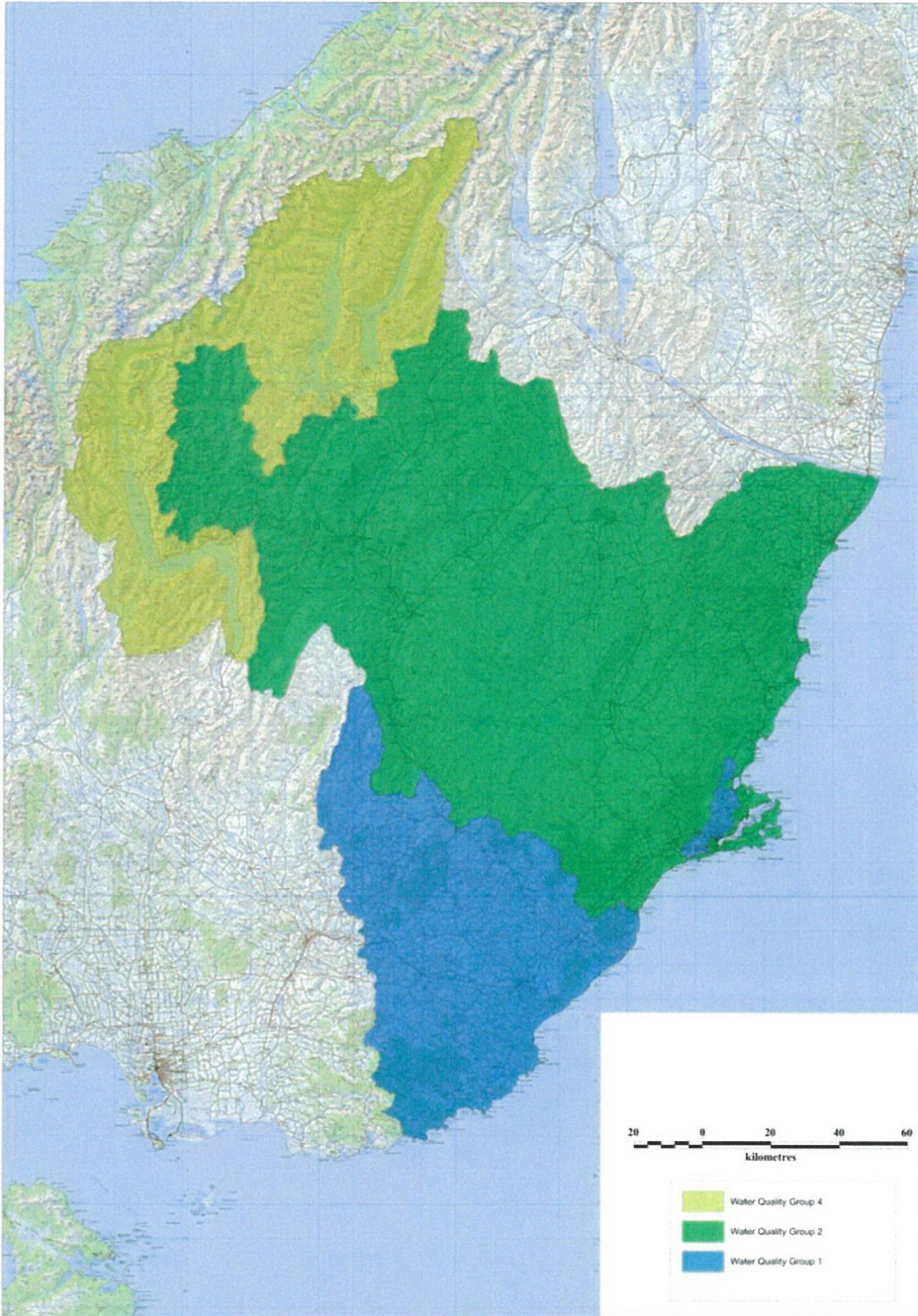
**Map 15.1 Visual description of Receiving Water Groups<sup>2</sup>**

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<sup>2</sup> Receiving Water Groups 3 and 5 are not mapped.

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Incorporating changes recommended in Officers' Report 22 August 2012  
Incorporating changes sought in Louise Taylor evidence for Waitaki Irrigators Collective Ltd and  
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SCHEDULE 15: GOOD QUALITY WATER



*Proposed Plan Change 6A (Water Quality) to the Regional Plan: Water for Otago* 17  
*Incorporating changes recommended in Officers' Report 22 August 2012*

*Incorporating changes sought in Louise Taylor evidence for Waitaki Irrigators Collective Ltd and others*  
*October 2012*

## Schedule 16 Schedule of discharge limits for water quality

<u>Discharge Limit Area 1<sup>†</sup></u>	<u>Nitrate-nitrite nitrogen</u>	<u>Dissolved reactive phosphorus</u>	<u>Ammoniacal nitrogen</u>	<u>Escherichia coli</u>
<u>Timeframe</u>	<u>31 March 2019</u>	<u>31 March 2017</u>		
<ul style="list-style-type: none"> <li>▪ <u>Catlins</u></li> <li>▪ <u>Carey's Creek</u></li> <li>▪ <u>Kaikorai</u></li> <li>▪ <u>Leith</u></li> <li>▪ <u>Mokoreta (within Otago)</u></li> <li>▪ <u>Owaka</u></li> <li>▪ <u>Pomahaka</u></li> <li>▪ <u>Tahakopa</u></li> <li>▪ <u>Tokomairiro</u></li> <li>▪ <u>Tuapeka</u></li> <li>▪ <u>Waitahuna</u></li> <li>▪ <u>Waitati</u></li> <li>▪ <u>Waiwera</u></li> <li>▪ <u>Any other unlisted tributary on the true right bank of the Clutha/Mata Au, south of Judge Creek</u></li> <li>▪ <u>Any other unlisted catchment that discharges to the coast south of Taieri Mouth</u></li> <li>▪ <u>Any other unlisted tributary on the true left bank of the Clutha/Mata Au, south of the Tuapeka catchment</u></li> </ul>	<u>2 mg/l</u>	<u>0.045 mg/l</u>	<u>0.1 mg/l</u>	<u>260 cfu/100 ml</u>

<u>Discharge Limit Area 2<sup>†</sup></u>	<u>Nitrate-nitrite nitrogen</u>	<u>Dissolved reactive phosphorus</u>	<u>Ammoniacal nitrogen</u>	<u>Escherichia coli</u>
<u>Timeframe</u>	<u>31 March 2019</u>	<u>31 March 2017</u>		
<ul style="list-style-type: none"> <li>▪ <u>Cardrona</u></li> <li>▪ <u>Kawarau downstream of the Shotover confluence and Clutha/Mata Au and any other unlisted tributary (Luggate to mouth, including Lakes Dunstan and Roxburgh, and excluding tributaries described in Area 1)</u></li> <li>▪ <u>Fraser</u></li> <li>▪ <u>Kakanui</u></li> <li>▪ <u>Lindis</u></li> <li>▪ <u>Luggate</u></li> <li>▪ <u>Manuherikia</u></li> <li>▪ <u>Mill Creek (tributary to Lake Hayes)</u></li> </ul>	<u>0.5 mg/L</u>	<u>0.035 mg/L</u>	<u>0.1 mg/L</u>	<u>260 cfu/100 ml</u>

SCHEDULE 15: GOOD QUALITY WATER

<ul style="list-style-type: none"> <li>▪ <u>Shag</u></li> <li>▪ <u>Shotover</u></li> <li>▪ <u>Taieri</u></li> <li>▪ <u>Trotters</u></li> <li>▪ <u>Waianakarua</u></li> <li>▪ <u>Waikouaiti</u></li> <li>▪ <u>Waitaki tributaries within Otago</u></li> <li>▪ <u>Waipori</u></li> <li>▪ <u>Any other unlisted catchment that discharges to the coast north Taieri Mouth</u></li> <li>▪ <u>Lake Hayes</u></li> <li>▪ <u>Lake Johnson</u></li> <li>▪ <u>Lake Onslow</u></li> <li>▪ <u>Lake Tuakitoto</u></li> <li>▪ <u>Lake Waihola</u></li> <li>▪ <u>Clutha/Mata Au (above Luggate)</u></li> <li>▪ <u>Kawarau upstream of the Shotover confluence</u></li> </ul>				
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<u>Discharge Limit Area 3<sup>†</sup></u>	<u>Nitrate-nitrite nitrogen</u>	<u>Dissolved reactive phosphorus</u>	<u>Ammoniacal nitrogen</u>	<u>Escherichia coli</u>
<u>Timeframe</u>	<u>31 March 2019</u>	<u>31 March 2017</u>		
<ul style="list-style-type: none"> <li>▪ <u>Any tributaries to Lakes Hawea, Wakatipu, and Wanaka</u></li> <li>▪ <u>Lake Hawea</u></li> <li>▪ <u>Lake Wakatipu</u></li> <li>▪ <u>Lake Wanaka</u></li> </ul>	<u>0.08 mg/l</u>	<u>0.006 mg/l</u>	<u>0.1 mg/l</u>	<u>126 cfu/100 ml</u>

mg/L = milligrams per litre  
 cfu/100 ml = colony forming units per 100 millilitres

<sup>†</sup>Areas 1, 2 and 3 are shown on the J series index map, and in Maps J1–J12.

**Comment [LET7]:** Re-work using field work, local knowledge and sound science

**Schedule 17 Schedule of nitrogen sensitive aquifer limits**

**TO COMPLETE**

**Comment [LET8]:** To complete once further analysis completed

20 Proposed Plan Change 6A (Water Quality) to the Regional Plan: Water for Otago Incorporating changes recommended in Officers' Report 22 August 2012 Incorporating changes sought in Louise Taylor evidence for Waitaki Irrigators Collective Ltd and others October 2012