

CHAPTER 2 – OBJECTIVES AND POLICIES FOR WATER QUALITY

The notified objectives and policies clarified the outcomes sought by the Otago Regional Council. They set the freshwater objectives for Otago relative to water quality, and the overall approach that was adopted to meet these objectives. Specific policies were notified to guide the consenting process.

2.1 Objectives for water quality

The first two notified objectives focused on attaining good water quality in Otago lakes, rivers, wetlands and groundwater. The third objective covered the role of the community in this achieving this.

We have considered the submissions and recommend that the notified objectives be amended in order to provide clarity.

2.1.1 Recommendations

- (a) Amend notified Objective 7.A.1, in order to clarify the intent of Plan Change 6A:

7.5.17.A.12 To enable the discharge of water or contaminants to water or land, in a way that maintains maintain or enhance the have good water quality of water in Otago's lakes and rivers water bodies that so that it is suitable to and supports their natural and human use values and people's use of water.

- (b) Amend notified Objective 7.A.2, in order to provide more clarity:

7.A.21 To maintain good quality water in Otago's water bodies, water quality in Otago lakes, rivers, wetlands, and groundwater, but and enhance water quality where necessary it is degraded.

- (c) Amend notified Objective 7.A.3, in order to provide more clarity:

7.A.3 To have individuals and communities recognise and manage the effects, including cumulative effects, of their activities on water quality, including cumulative effects.

2.1.2 Reasons

- **Maintaining or enhancing water quality**

New Objectives 7.A.1 and 7.A.2 emphasise that existing water quality will be maintained or improved where it is degraded. This gives effect to Section 69(3) RMA, Objective A2 NPSFW, and Objective 6.4.4 and Policy 6.5.5 RPS.

Schedule 15 describes in narrative terms and as numerical standards “good quality water”. See section 2.2 of this report. This phrase does not need to be stated in the Objectives.

The term “degraded” in new Objective 7.A.1 provides more guidance than the notified wording. Water is considered degraded when Schedule 15 standards are not met.

- **Enabling discharges with acceptable effect**

Using water to dispose of waste has socio-economic benefits. However such disposal must be done in a way that is compatible with the other uses and values of water.

- **Freshwater values and sustainable management of resources**

In Chapter 5, Policy 5.4.2, the Water Plan uses the concept of “natural and human use values” and prioritises avoidance of adverse effect on those values. Policy 5.4.3 prioritises avoidance of adverse effects on existing lawful uses.

The freshwater values in the NPSFW are consistent with the maintenance of Otago’s natural and human use values.

- **Responsibility for good quality water**

Under Section 17 RMA every person has a duty to control the adverse effects of their activity on the environment. Amendment of Objective 7.A.3 clarifies these responsibilities for individuals and communities.

ORC’s actions for enhancing water quality in Otago are set out in ORC’s Annual Plan. These actions include monitoring and enforcement. These are included as ORC’s duties under Section 30 RMA, and do not need to be specified in an Objective.

- **Scope of objectives**

Schedule 15, short-term discharges, and the effect of abnormal flows, are better dealt with in policies and rules, rather than in the objectives.

- **Coastal water**

This plan change gives effect to the NZ Coastal Policy Statement 2010 to the extent that it addresses contaminant discharges which may affect coastal water quality.

- **Clarity**

The phrases “recognise and manage” in notified Policy 7.A.3 and “where necessary” in notified Policy 7.A.1 have been clarified.

The phrase “lakes, rivers, wetlands, and groundwater” is clearer than the phrase “water bodies”, and those words are commonly used in the Water Plan.

The order of notified Objectives 7.A.1 and 7.A.2 has been reversed to be more logical.

2.2 Schedule 15 and “good quality water”

Notified Schedule 15 set the water quality objectives for Otago, and the target dates by which those objectives were to be achieved. Reference to Schedule 15 was made in Policy 7.B.1.

We considered the submissions and evidence received and recommend that Policy 7.B.1 and Schedule 15 be amended in order to clarify the purpose of Schedule 15.

2.2.1 Recommendations

(a) Amend Policy 7.B.1, in order to clarify the purpose of Schedule 15:

~~7.B.1 Ensure water is of good quality by the target dates described in Schedule 15, to support natural and human use values, by:~~

~~(a) Avoiding discharges of contaminants with noticeable effects on natural and human use values; and~~

~~(b) Allowing discharges of contaminants that cumulatively have minor effects, or are short term; and~~

~~(c) Minimising disturbance of the beds of rivers and lakes.~~

7.B.1 Manage the quality of water in Otago lakes, rivers, wetlands and groundwater by:

(a) Recognising the differences in the effects and management of point and non-point source discharges; and

(b) Defining, in Schedule 15, characteristics and standards that describe good quality water; and

(c) Maintaining, from the dates specified in Schedule 15, good quality water; and

(d) Enhancing water quality where it does not meet Schedule 15 standards; and

(e) Recognising discharge effects on groundwater.

...

- (b) Amend the title of Schedule 15, in order to clarify the purpose of this Schedule:

15 Schedule of characteristics and numerical standards for good quality water in Otago lakes and rivers

- (c) Amend Table 15.1, in order to clarify the purpose of this Schedule:

Table 15.1 Characteristics indicative of good quality water

| <u>Characteristic</u> | <u>Description</u> | <u>Contaminant effect</u> |
|-----------------------|---|---|
| <u>Clarity</u> | Water is clear: able to easily and clearly see the bed w When standing in knee-deep water, the bed is easily and clearly seen. Naturally occurring scums and foams only. | <u>Sediment reduces the clarity of water, and has an adverse effect on aquatic habitats.</u> |
| <u>Colour</u> | Water is colour-free, is not altered by contamination. however, s Some rivers have natural colour such as are naturally tannin- | <u>A change in colour can be indicative of contamination by sediment or organic matter, linked to potentially high concentrations of DRP.</u> |

| | | |
|------------------------|---|--|
| | stained e.g. The Catlin, Taieri, Waitahuna and Tokomairiro Rivers. | NNN, ammoniacal nitrogen or <i>E coli</i> . |
| <u>Algae</u> | <p><u>Healthy levels of algae:</u></p> <ul style="list-style-type: none"> ▪ <u>Do not cover more than 30% of the bed.</u> ▪ <u>Strands are less than 20 mm in length.</u> ▪ <u>No slime on the surface of the water.</u> | |
| <u>Sediment</u> | <p>Riffles and runs free of obvious clay and and silt deposits.</p> <p>Walking across a riffle or run should not produce an obvious plume.</p> <p>However, some Some rivers are naturally high in sediment e.g. the Dart and Shotover Rivers.</p> | <p><u>Sediment affects the colour of water, and has an adverse effect on aquatic habitats, and can result in high concentrations of phosphorus, and allow <i>E coli</i> to persist.</u></p> |
| <u>Smell</u> | <p>Water is odourless, however, water in some wetlands may have a naturally earthy smell.</p> | <p><u>Smell can be indicative of contamination, from a source high in ammoniacal nitrogen or <i>E coli</i> or the decay of excessive amounts of algae which limits people's opportunity to appreciate water.</u></p> |
| <u>Algae</u> | <p><u>Healthy levels of algae:</u></p> <ul style="list-style-type: none"> ▪ <u>Do not cover more than 30% of the bed.</u> ▪ <u>Strands are less than 20 mm in length.</u> ▪ <u>No slime on the surface of the water.</u> | <p><u>Excessive nitrogen and phosphorus contribute to algal growth which has an adverse effect on native fish habitat, amenity and recreation values, and angling opportunities.</u></p> |
| <u>Bank appearance</u> | <p>Healthy <u>Functioning riparian margins:</u></p> <ul style="list-style-type: none"> ▪ <u>Vegetation is healthy not stripped bare.</u> ▪ <u>Banks are stable.</u> ▪ <u>No obvious livestock disturbance.</u> | <p><u>Healthy riparian margins mitigate sediment and nutrient discharges.</u></p> |

(d) Amend Table 15.2, in order to clarify the standards and provide more robust protection for Otago lakes and rivers:

Table 15.2 Receiving water numerical standards and catchment timeframes for catchments to meet specified measures of good receiving water quality for

achieving good quality water

The standards for Groups 1, 2 and 3 are 5-year 80th percentile values when water flow is at or below median.

Table 15.2.1: Receiving Water Group 1

| <u>Receiving water Group 1</u> | <u>Nitrate-nitrite nitrogen¹</u> | <u>Dissolved reactive phosphorus¹</u> | <u>Ammoniacal nitrogen²</u> | <u>Escherichia coli³</u> | <u>Turbidity⁴</u> |
|---|--|---|---|--|---|
| | <u>0.444 mg/L</u> | <u>0.026 mg/L</u> | <u>0.1 mg/L</u> | <u>126 260 cfu/100 ml</u> | <u>5 NTU</u> |
| <u>Catlins</u> | 31 March 2012 31 March 2025 | 31 March 2012 | 31 March 2012 | 31 March 2012 | 31 March 2012 31 March 2025 |
| <u>Carey's Creek</u> | 31 March 2012 | 31 March 2012 | 31 March 2012 | 31 March 2012 | 31 March 2012 |
| <u>Fleming</u> | 31 March 2012 | 31 March 2012 | 31 March 2012 | 31 March 2012 | 31 March 2012 |
| <u>Kaikorai</u> | 31 March 2012 | 31 March 2012 | 31 March 2012 | 31 March 2017 31 March 2025 | 31 March 2012 |
| <u>Leith</u> | 31 March 2012 31 March 2025 | 31 March 2012 31 March 2025 | 31 March 2012 | 31 March 2017 31 March 2025 | 31 March 2012 |
| <u>Mokoreta (within Otago)</u> | 31 March 2017 31 March 2025 | 31 March 2017 31 March 2025 | 31 March 2017 31 March 2012 | 31 March 2017 31 March 2025 | 31 March 2012 |
| <u>Owaka</u> | 31 March 2017 31 March 2025 | 31 March 2012 31 March 2025 | 31 March 2012 | 31 March 2017 31 March 2025 | 31 March 2012 31 March 2025 |
| <u>Pomahaka, downstream of Glenken</u> | 31 March 2012 31 March 2025 | 31 March 2012 31 March 2025 | 31 March 2012 | 31 March 2017 31 March 2025 | 31 March 2012 31 March 2025 |
| <u>Tahakopa</u> | 31 March 2012 | 31 March 2012 | 31 March 2012 | 31 March 2017 31 March 2025 | 31 March 2012 31 March 2025 |
| <u>Tautuku</u> | 31 March 2012 | 31 March 2012 | 31 March 2012 | 31 March 2012 | 31 March 2012 |
| <u>Tokomairiro</u> | 31 March 2012 | 31 March 2012 | 31 March 2012 | 31 March 2025 | 31 March 2012 |
| <u>Tuapeka</u> | 31 March 2025 | 31 March 2012 | 31 March 2012 | 31 March 2012 | 31 March 2012 |
| <u>Waitahuna</u> | 31 March 2012 | 31 March 2012 | 31 March 2012 | 31 March 2025 | 31 March 2012 |
| <u>Waitati</u> | 31 March 2012 | 31 March 2012 | 31 March 2012 | 31 March 2012 31 March 2025 | 31 March 2012 |
| <u>Waiwera</u> | 31 March 2017 31 March 2025 | 31 March 2012 31 March 2025 | 31 March 2017 31 March 2012 | 31 March 2012 31 March 2025 | 31 March 2012 |

| | | | | | |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| <u>Any other unlisted tributary on the true right bank of the Clutha/Mata-Au, south of Judge Creek</u> | <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> |
| <u>Any unlisted tributary on the true left bank of the Clutha Mata-Au, south of the Tuapeka catchment</u> | <u>31 March 2012</u> | | | | |
| <u>Any other unlisted catchment that discharges to the coast, south of Taieri Mouth the Matau Branch of the Clutha River/Mata Au</u> | <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> |

Table 15.2.2: Receiving Water Group 2

| <u>Receiving water Group 2</u> | <u>Nitrate-nitrite nitrogen¹</u> | <u>Dissolved reactive phosphorus¹</u> | <u>Ammoniacal nitrogen²</u> | <u>Escherichia coli³</u> | <u>Turbidity⁴</u> |
|---|--|---|--|---|------------------------------|
| | <u>0.075 mg/L</u> | 0.006 <u>0.01 mg/L</u> | <u>0.1 mg/L</u> | 126 260 <u>cfu/100 ml</u> | <u>5 NTU</u> |
| <u>Arrow</u> | | | | | |
| <u>Cardrona</u> | <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> |
| <u>Clutha/Mata-Au and any other unlisted tributary (Lugate to mouth, including Lakes Dunstan and Roxburgh, and excluding tributaries described in Area 1)</u> | <u>31 March 2025</u> | <u>31 March 2012, except Lake Dunstan which has until 31 March 2017 to comply with nitrate-nitrite nitrogen</u> | | | <u>31 March 2025</u> |
| <u>Fraser</u> | 31 March 2017 <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> |

| | | | | | |
|---|--|--|--------------------------|--|--|
| <u>Kakanui</u> | 31 March 2017 <u>31 March 2025</u> | 31 March 2017 <u>31 March 2025</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> |
| <u>Kawarau</u> downstream of the Shotover confluence | <u>31 March 2025</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> |
| <u>Lake Dunstan</u> | <u>31 March 2012</u> | | | | |
| <u>Lindis</u> | 31 March 2017 <u>31 March 2025</u> | 31 March 2017 <u>31 March 2025</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> |
| <u>Luggate</u> | 31 March 2017 <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> |
| <u>Manuherikia</u> | 31 March 2017 <u>31 March 2012</u> | 31 March 2012 <u>31 March 2025</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> |
| <u>Mill Creek</u> (tributary to Lake Hayes) | 31 March 2017 <u>31 March 2025</u> | 31 March 2017 <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> |
| <u>Pomahaka,</u> upstream of Glenken | <u>31 March 2012</u> | | | | |
| <u>Shag</u> | 31 March 2017 <u>31 March 2025</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> |
| <u>Shotover</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | Exempt |
| <u>Taieri</u> | 31 March 2017 <u>31 March 2025</u> | 31 March 2017 <u>31 March 2025</u> | <u>31 March 2012</u> | 31 March 2012 <u>31 March 2025</u> | 31 March 2012 <u>31 March 2025</u> |
| <u>Tekomariro</u> | 31 March 2017 | 31 March 2017 | 31 March 2012 | 31 March 2017 | 31 March 2012 |
| <u>Trotters</u> | 31 March 2012 <u>31 March 2025</u> | 31 March 2017 <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> |
| <u>Waianakarua</u> | 31 March 2017 <u>31 March 2025</u> | 31 March 2017 <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> |
| <u>Waikouaiti</u> | 31 March 2017 <u>31 March 2012</u> | 31 March 2017 <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> |
| <u>Waitahuna</u> | 31 March 2017 | 31 March 2017 | 31 March 2012 | 31 March 2012 | 31 March 2012 |
| <u>Waipori</u> | 31 March 2017 <u>31 March 2012</u> | 31 March 2017 <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> |
| <u>Waitaki</u> tributaries within Otago | <u>31 March 2025</u> | <u>31 March 2025</u> | <u>31 March 2012</u> | <u>31 March 2025</u> | <u>31 March 2012</u> |
| Any other unlisted catchment that discharges to the coast , north of Taieri Mouth the Matau Branch of the Clutha | <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> |

| | | | | | |
|----------------------|--|--|--|--|--|
| <u>River/Mata Au</u> | | | | | |
|----------------------|--|--|--|--|--|

Table 15.2.3: Receiving Water Group 3

| <u>Receiving water Group 4</u> | <u>Nitrate-nitrite nitrogen</u> ¹ | <u>Dissolved reactive phosphorus</u> ¹ | <u>Ammoniacal nitrogen</u> ² | <u>Escherichia coli</u> ³ | <u>Turbidity</u> ⁴ |
|---|--|---|---|--------------------------------------|-------------------------------|
| | <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>Kawearau upstream of the Shotover confluence</u> | <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> |
| <u>Any Tributaries to Lakes Hawea, Wakatipu, and Wanaka</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 2025</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2025</u> | <u>Exempt</u> |

The standards for Groups 4 and 5 are 5-year 80th percentile values at all times.

Table 15.2.4: Receiving Water Group 4

| <u>Receiving water Group 3</u> | <u>Total nitrogen</u> ¹ | <u>Total phosphorus</u> ¹ | <u>Ammoniacal nitrogen</u> ² | <u>Escherichia coli</u> ³ | <u>Turbidity</u> ⁴ |
|-----------------------------------|---|---|---|---|---|
| | <u>0.725 0.55 mg/L</u> | <u>0.043 0.033 mg/L</u> | <u>0.1 mg/L</u> | <u>126 cfu/100 ml</u> | <u>5 NTU</u> |
| <u>Lake Hayes</u> | <u>31 March 2012</u> | <u>31 March 2012</u> <u>31 March 2025</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> |
| <u>Lake Johnson</u> | <u>31 March 2012</u> <u>31 March 2025</u> | <u>31 March 2012</u> <u>31 March 2025</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> |
| <u>Lake Onslow</u> | <u>31 March 2012</u> | <u>31 March 2012</u> <u>31 March 2025</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> <u>31 March 2025</u> |
| <u>Lake Tuakitoto</u> | <u>31 March 2012</u> <u>31 March 2025</u> | <u>31 March 2012</u> <u>31 March 2025</u> | <u>31 March 2012</u> | <u>31 March 2012</u> <u>31 March 2025</u> | <u>31 March 2012</u> <u>31 March 2025</u> |
| <u>Lake Waipori & Waihola</u> | <u>31 March 2012</u> <u>31 March 2025</u> | <u>31 March 2012</u> <u>31 March 2025</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</u> <u>31 March 2025</u> |

Table 15.2.5: Receiving Water Group 5

| <u>Receiving water Group 5</u> | <u>Total Nitrogen</u> | <u>Total Phosphorus</u> | <u>Ammoniacal nitrogen</u> ² | <u>Escherichia coli</u> ³ | <u>Turbidity</u> ⁴ |
|--------------------------------|-----------------------|---|---|--------------------------------------|-------------------------------|
| | <u>0.157 mg/L</u> | <u>0.009 0.005 mg/L</u> | <u>0.01 mg/L</u> | <u>10 cfu/100 ml</u> | <u>3 NTU</u> |
| <u>Lake Hawea</u> | <u>31 March 2012</u> | | | | |
| <u>Lake Wakatipu</u> | <u>31 March 2012</u> | <u>31 March 2012 31 March 2025</u> | <u>31 March 2012</u> | <u>31 March 2012</u> | <u>31 March 2012</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

¹~~Promotes periphyton growth~~

²~~Indicates effluent contamination~~

³~~Indicator of pathogens present~~

⁴~~Measure of clarity~~

(e) Add new Map 15.1, in order to visually describe Receiving Water Groups 1, 2 and 3:

Map 15.1 Receiving Water Groups

(refer to the Map in Appendix 1)

2.2.2 Reasons

▪ Schedule 15 does not allow degradation of water quality

The purpose of Schedule 15 has been further clarified in amended Policy 7.B.1. Where existing water quality is better than Schedule 15 it will be maintained at that standard.

Where catchments breach Schedule 15.2 standards, ORC will seek to achieve compliance with those standards by the target dates set in that Schedule.

Schedule 15 replaces the policies in section 7.6 of the operative Water Plan that specifically target catchments with degraded water quality.

▪ Schedule 15 and good quality water

Schedule 15 is composed of two tables. Table 15.1 sets narrative standards of good quality water, while Table 15.2 contains numerical standards and target dates for good quality water. The narrative standards in Table 15.1 of Schedule 15 are preliminary indicators of water quality. Meeting these narrative standards does not guarantee good quality water, therefore compliance with the numerical standards in Table 15.2 is also required. This has been clarified in the heading of Table 15.1.

The narrative characteristics in Table 15.1 have been clarified, and as well, their relationships with the key contaminants and their adverse effects targeted in Table 15.2 and their adverse effects. The added description of these characteristics and adverse effects better define what is meant by “good quality water”.

These characteristics allow a good assessment of the water quality in lakes and rivers, without there being any need for additional criteria. The selected key indicators are highly correlated to other indicators, such as periphyton growth, dissolved oxygen, and chlorophyll-a. The Macroinvertebrate Community Index (MCI) is a better indicator of habitat rather than water quality.

Schedule 15 standards are based on recognised water quality guidelines such as ANZECC 2000, Periphyton Guidelines (Biggs, 2000), MfE Guidelines (2002), and Trophic Lakes Guidelines (Burns, 2000). Standards for ammoniacal nitrogen reflect a low tolerance for effluent entering lakes, rivers, wetlands and groundwater. The standards for *E coli* in the large lakes and their tributaries protect the current very high water quality of the large lakes.

Schedule 15 standards were originally developed as median values. Median values allow for large variations in water quality. We recommend that Schedule 15 standards be set as 80th percentile values. In rivers, compliance with the standards will be sought at or below median flow. The new standards are more stringent than median values. Standards for *E coli* and DRP have been adjusted accordingly.

Schedule 15 standards, as notified, did not give an adequate degree of protection to the lakes. The standards for TN and TP for small lakes were placed at the border between high nutrient enrichment, eutrophic grade, and the very high nutrient, supertrophic grade. For the large pristine lakes the standards were at the border of low nutrient enrichment, oligotrophic grade, and the medium nutrient enrichment, mesotrophic grade. The new recommended standards equate to 50% of the eutrophic band scale for small lakes, and to 25% of the oligotrophic band scale for large lakes (from Burns, 2000).

▪ **Schedule 15 and water quality variability**

Target dates have been set for those catchments that currently breach the Schedule 15 standards. These have been set at 1 April 2025. This is appropriate, as compliance with the standards is assessed based on a 5-year data set. In all the other catchments, water quality is expected to be maintained as a result of the plan change. The standards and categories in Table 15.2 are based on accrual time for rivers and on trophic conditions for lakes.

The Waianakarua and Kakanui catchments have low flows in summer and gravel substrate, and therefore belong in Group 2. By contrast, the Tokomairiro, Tuapeka and Waitahuna catchments along with unnamed adjacent catchments belong in Group 1, because of their similarity with the catchments on the south west of the Clutha River. The catchments discharging to the Waitaki River have been included in Group 2, while the Matukituki River has been exempted from turbidity standards, for consistency with the

Shotover. Finally, as a eutrophic lake, Lake Onslow belongs in the Receiving Water Group 3.

The Pomahaka catchment has been split into two to recognise the very good water quality of the upper catchment and its high angling values.

- **The practical implications of Schedule 15**

The reference to Schedule 15 in Policy 7.B.1 does not preclude the granting of consents in the catchments that breach Schedule 15 standards. Consent applications will be assessed against a large set of variables. The potential impact of discharges on the achievability of the standards in the receiving water body is only one of the variables that will be considered.

Schedule 15 standards are 80th percentile values based on 5-year data. A one-off sample will only give an indication of whether the receiving water meets Schedule 15 standards.

- **Clearer wording**

Headings in Schedule 15 have been reviewed and amended to clarify the scope and content of Schedule 15. The description of catchments has been amended and a map has been added to avoid any ambiguity about the areas covered by each receiving water group.

2.3 General policies that apply to all discharges

The notified plan change split the policies on water quality into 3 separate sections: 7.B for all discharges, 7.C for industrial and urban discharges, and 7.D for rural discharges.

We considered the submissions and we recommend that 7.B be amended to clarify ORC's approach to managing water quality, and to remove any internal inconsistencies between policies.

2.3.1 Recommendations

- (a) Replace notified Policy 7.B.1 with three new policies, in order to provide greater support for the rule framework and better guidance for consent decisions:

~~**7.B.1 Ensure water is of good quality by the target dates described in Schedule 15, to support natural and human use values, by:**~~

~~**(a) Avoiding discharges of contaminants with noticeable effects on natural and human use values; and**~~

~~**(b) Allowing discharges of contaminants that cumulatively have minor effects, or are short term; and**~~

~~**(c) Minimising disturbance of the beds of rivers and lakes.**~~

7.B.1 Manage the quality of water in Otago lakes, rivers, wetlands and groundwater by:

- (a) Recognising the differences in the effects and management of point and non-point source discharges; and**
- (b) Defining, in Schedule 15, characteristics and standards that describe good quality water; and**
- (c) Maintaining, from the dates specified in Schedule 15, good quality water; and**
- (d) Enhancing water quality where it does not meet Schedule 15 standards; and**
- (e) Recognising discharge effects on groundwater.**

7.B.2 Avoid objectionable discharges of water or contaminants that degrade the natural and human use values of Otago lakes, rivers, wetlands and groundwater.

7.B.3 Allow discharges of water or contaminants to Otago lakes, rivers, wetlands and groundwater that have minor effects or are short-term.

- (b) Delete notified Policy 7.B.2, in order to avoid inconsistencies with notified Policy 7.B.3:

~~7.B.2 [Moved from 7.7.1] To promote discharges of contaminants to land in preference to water, where appropriate.~~

- (c) Amend and renumber notified Policy 7.B.3, in order to clarify the intent of this policy:

~~7.B.43~~ 7.B.43 [Moved from 7.7.2] When considering the any discharge of water or any contaminants to land, to have regard to:

- (a) The ability of the land to assimilate the discharge contaminant water or contaminants; and**
- (b) Any potential for soil contamination; and**
- (c) Any potential for land instability Any potential land instability; and**
- (d) Actual or Any potential adverse effects on water quality bodies.**

- (d) Amend notified Policy 7.B.5, in order to recognise the risk of introduction of new species resulting from inter-catchment transfers:

~~**7.B.5 Recognise the values of Iwi when water is discharged from one catchment to another.**~~

7.B.5 When considering any discharge of water from one catchment to water in another catchment, have regard to:

(a) Tangata whenua values; and

(b) The adverse effects of introducing species that are new to the receiving catchment.

- (e) Amend Policy 7.7.8 and move this policy to become 7.B.6, in order to provide greater clarity:

7.B.6 [Moved from 7.7.8] Require, as appropriate, that any resource consent for discharging water or contaminants contains a review condition provision be made for review of the conditions of any resource consent for discharging a contaminant.

- (f) Amend and renumber notified Policy 7.B.4, in order to clarify the intent of this Policy:

7.B.84 Encourage adaptive management and innovation that reduces the level of discharge and impact of contaminants in discharges on water quality.

- (g) Add a new Policy 7.B.7 that focuses on land management practices, in order to clarify the intent of Plan Change 6A:

7.B.7 Encourage land management practices that reduce the adverse effects of water or contaminants discharged into water.

2.3.2 Reasons

▪ Giving effect to the objectives

Notified Policy 7.B.1 described the overall approach adopted by ORC to achieve the Plan's objectives with regard to Otago lakes and rivers. In order to provide more clarity, this policy has been split into three separate policies. These better support the proposed rule framework and outline the criteria against which consent applications for discharges will be considered.

As amended, Policy 7.B.1 makes a clear distinction between point source and non-point source discharges and gives better recognition to the effects of discharges on wetlands

and groundwater. Notified Policy 7.B.1(c) has been deleted, as the impacts of bed disturbance on water quality are sufficiently covered by the objectives and policies in Chapter 8 of the Water Plan.

New Policies 7.B.2 and 7.B.3 provide support for the permitted and prohibited rules in section 12.C of the plan change. See section 3.3 of this report.

New Policy 7.B.7 recognises that the adverse effects of discharges can also be reduced through changes in land management practices.

Amended Policy 7.B.8, notified as Policy 7.B.4, is aligned with Objective 7.A.3 by requiring landholders to adjust their operations to meet discharge standards, through “adaptive management and innovation”. Industry best practices do not necessarily address the adverse effects of discharges on water quality.

- **Policies that address all discharges**

Managing water quality across the region requires an integrated approach that cuts across all economic sectors and applies to all sources of pollution. The policies in section 7.B provide a consistent and transparent policy framework that applies to rural as well as urban discharges. This section is complemented by sections 7.C and 7.D, which set specific policies for industrial and rural discharges.

The notified plan change focused on rural diffuse discharges. Most of the policies in section 7.B already apply to industrial and urban discharges under the operative plan including recommended Policy 7.B.6, which has been moved from section 7.C because it is relevant to all discharges.

Policies in section 7.B will be used when considering consent applications for rural, industrial or urban discharges. New Policy 7.B.2 promotes the avoidance of objectionable discharges that result in the degradation of the natural and human use values. The effects of industrial discharges that are not objectionable can still be remedied or mitigated under the Water Plan. See Policy 7.7.3 in section 7.C of the Water Plan.

Notified Policy 7.B.4 and new Policy 7.B.8 promote the principle that landholders are responsible for monitoring the effects of their activities on water quality. This principle is also expressed through the permitted activity rule framework in section 12.C.

- **Protection of freshwater values, and consistency with the RMA and NPSFW**

The amended policy framework protects the natural and human use values of the region’s rivers, lakes, wetlands and groundwater. They provide for freshwater’s economic values, and allow discharges that have minor effects on natural and human use values.

The recognition of “tangata whenua” values instead of “Iwi” values is consistent with the NPSFW and the RMA. The risk of introducing new species by discharging water from one catchment to water in another catchment is recognised.

- **Promoting discharges to land**

Policy 7.B.2, as notified, promoted discharges of contaminants to land in preference to water under any circumstances. This is inconsistent with Policy 7.B.3 which recognises the risks of soil contamination resulting from discharges to land. Therefore it is recommended to delete notified Policy 7.B.2.

In Policy 7.B.4, the condition on the risk of land instability has been reinstated, as it gives effect to Objective 5.3.8 of the Water Plan. However, the word “actual” is deleted, because discharges of contaminants to land have only potential effects on water, and the regard to actual effect was not necessary for the achievement of the plan’s objective. There is no need for specifying within this policy what the potential effects of discharges to land on water bodies may be.

- **Clearer wording**

The terminology in Policy 7.B.1 has been reviewed to offer a clearer framework to the rules. The term “noticeable effects” has been used, while the term “good quality water” has been adopted for consistency with Schedule 15.

Terms such as “minor effects” and “short-term” are commonly used in the Water Plan and Policy 7.D.7 defines what is meant by “short-term” for rural discharges. See section 2.4.2 of this report.

2.4 Policies for other discharges, typically of a rural nature

The notified policies in section 7.D described how discharges, typically of a rural nature, are to be managed.

We considered the submissions and recommend a redraft of these policies. This will provide better guidance for consenting, and will improve certainty in implementing the rules.

2.4.1 Recommendations

(a) Amend the heading of section 7.D, in order to clarify the scope of this section:

7.D Policies for discharges of water and contaminants, excluding those discharges provided for in 7.C nitrogen, phosphorus, *Escherichia coli* and sediment (excluding in human sewage, hazardous wastes and stormwater, and from industrial and trade premises)

(b) Add new Policy 7.D.1, in order to promote innovation and information sharing:

7.D.1 Encourage innovation in management practices and the sharing of information, including by:

(a) Council:

- (i) Providing information on water quality and water quantity; and**
- (ii) Supporting landholders in measuring or assessing contaminants in discharges; and**
- (iii) Supporting the development of means to measure or assess contaminants in discharges.**

(b) Landholders:

- (i) Implementing practices that reduce the level of contaminants in discharges; and**
- (ii) Providing relevant information to support the catchment or aquifer studies undertaken by Council.**

- (c) Delete notified Policy 7.D.1 and add new Policy 7.D.2, in order to provide more certainty and clarity:

~~**7.D.1 Apply limits on contaminants in discharges where they are about to enter water.**~~

7.D.2 Schedule 16 discharge contaminant concentration limits apply, from 1 April 2020, at or below the reference flows set in Schedule 16B based on median flows.

- (d) Add new Policy 7.D.3, in order to support the use of prohibitions:

7.D.3 Prohibit objectionable discharges of water or contaminants that degrade the natural and human use values of Otago lakes, rivers, wetlands and groundwater.

- (e) Replace notified Policies 7.D.2 and 7.D.3 with new Policy 7.D.4, in order to clarify consent options:

~~**7.D.2 Provide for the consenting of discharges, that first occurred prior to 31 March 2012, for a limited time period beyond the timeframe specified in Schedule 16, where:**~~

- ~~**(a) Changes to land management practices or infrastructure to minimise the discharge have been implemented; and**~~
- ~~**(b) Additional changes to management practices or infrastructure are**~~

~~needed to achieve the limits; and~~
~~(e) An expeditious path to compliance with Schedule 16 is identified.~~

~~7.D.3 Provide for the consenting of discharges that exceed Schedule 16 limits as part of the development of technology or innovative practices associated with improving water quality.~~

7.D.4 Provide for the consenting of any discharge under section 12.C:

- (a) Where changes to land management practices or infrastructure have not been sufficient to meet permitted activity rules; or
- (b) As part of the development of technology or innovative practices associated with improving water quality; or
- (c) From a short-term activity with short-term adverse effects.

- (f) Add new Policy 7.D.5, in order to provide better policy guidance for consent decisions:

7.D.5 When considering any discharge under section 12.C, have regard to:

- (a) The effects of the discharge on water quality, including cumulative effects; and
- (b) A staged timeframe and management plan to achieve compliance with the permitted activity rules; and
- (c) The extent to which the contaminants in the discharge result from the activities of the applicant; and
- (d) The likelihood that the staged timeframe and management plan can be successfully applied; and
- (e) The current state of technical knowledge.

- (g) Add new Policies 7.D.6 and 7.D.7, in order to provide better policy guidance for consent duration:

7.D.6 When considering the duration of a resource consent under section 12.C, have regard to:

- (a) The staged timeframe to achieve compliance with the permitted activity rules;**
- (b) The extent to which the contaminants in the discharge result from the activities of the applicant;**
- (c) Trends in the quality of the receiving water relative to the Schedule 15 standards;**
- (d) Any adverse effects of the discharge on the maintenance of natural and human use values;**
- (e) The extent to which the risk of potentially significant, adverse effects arising from the activity may be adequately managed through review conditions;**
- (f) The value of the investment in infrastructure; and**
- (g) The use of industry best practice.**

7.D.7 The duration of a resource consent for a discharge, which breaches any relevant Schedule 16 or nitrogen leaching limit, will not exceed:

- (1) Two years for discharges from a short-term activity with short-term adverse effects; or**
- (2) Five years for all other discharges where the contaminants in the discharge result from the activities of the applicant.**

2.4.2 Reasons

▪ Scope of section 7.D

Notified section 7.D set the policies that specifically provide for “rural” discharges. The heading, as amended, recognises that “rural” discharges are not restricted to discharges of nitrogen, phosphorus, *E coli*, and sediment. It also ensures that the scopes of sections 7.D and 12.C of the plan change are aligned.

▪ Sharing of responsibilities

Section 7.D now includes a new Policy 7.D.1 that sets out the shared responsibilities of ORC and individuals in monitoring trends in the quality of the region’s surface and groundwater resources.

▪ The assimilative capacity of water

In the notified plan change, Policy 7.D.1 was intended to provide clarity around the matter of reasonable mixing and the use of assimilative capacity of water in relation to rural diffuse discharges. The new Policy 7.D.2 now clarifies how the assimilative capacity of water is used in relation to discharges of contaminants listed in Schedule 16. Contaminant limits must be met when the receiving water is at or below median flow.

- **Practicality of issues**

Notified Policy 7.D.1 provided clarity around the point where compliance with the discharge limits was required. It is appropriate to delete notified Policy 7.D.1 as the amended rules in 12.C now adequately address issues around the application of discharge limits at a particular point.

- **A policy framework that supports the prohibitions**

New policy 7.D.3 provides support for the use of prohibitions in section 12.C.0, and describes which discharges should not occur under any circumstances.

The term objectionable refers to discharges that are significant in terms of their effects on the receiving environment or where no attempt has been made to mitigate these effects.

- **Discharges not attributable to activities of the discharger**

Plan Change 6A is based on the principle that landholders should take responsibility for the effects and costs of their discharge activities, not the wider community. However, it is unreasonable for them to be held accountable for discharges that they have no control over, or that do not arise from their activities.

The policy framework in Section 7.D has been amended to give better recognition to this principle and allow consent decision-makers to give due consideration to this matter.

- **Consent Guidance**

New Policies 7.D.5, 7.D.6 and 7.D.7 provide consent decision making guidance for discharges to water or to land in circumstances that may result in contaminant entering water.

Landholders are required to do the best they can to meet the permitted activity conditions. The consent duration is limited to five years, to ensure that every effort will be made to manage activities so that they have no more than minor effects on water quality. New Policy 7.D.7 defines “short term”.

Notified Policy 7.D.2 did not provide consenting guidance for all the activities that were discretionary or restricted discretionary. New policies 7.D.5 and 7.D.6 cover all discharges for which a consent application can be made. The list of matters for consideration is extended to provide for a more balanced assessment of specific situations.

2.5 Policies for urban and industrial discharges

Notified provisions for industrial and urban discharges remained largely unchanged from the operative Water Plan, apart from the deletion of Policy 7.7.5.

We recommend that the scope of policies be clarified to cover discharges from large dams, including hydro-electricity dams.

2.5.1 Recommendations

(a) Amend the heading of section 7.C, in order to clarify the scope of this section:

7.C Policies for discharges of human sewage, hazardous substances, hazardous wastes, specified contaminant, and stormwater; ~~and other specified contaminants,~~ and discharges from industrial ~~or~~ and trade premises and consented dams

2.5.2 Reasons

- **Scope of section 7.C**

The notified plan change did not explicitly provide for discharges from large dams. The amendment of section 7.C's heading removes any uncertainty over what policies apply to those discharges. The rules applying to those discharges are discussed in section 3.11 of this report.