



# Agenda

**Notice is hereby given of  
an Environmental Services and Finance  
Committee Meeting**

**Tuesday 29 January 2019**

To follow the District Infrastructure Committee  
meeting

Council Chamber  
Waimate District Council  
125 Queen Street  
Waimate

[www.waimatedc.govt.nz](http://www.waimatedc.govt.nz)

**Notice is hereby given that a meeting of the Environmental Services and Finance Committee will be held in the Council Chamber, Waimate District Council, 125 Queen Street, Waimate, on Tuesday 29 January 2019, to follow the District Infrastructure Committee meeting.**

**Committee Membership**

Sharyn Cain	Chairperson
Jakki Guilford	Deputy Chairperson
Craig Rowley	Mayor
David Anderson	Councillor
Peter Collins	Councillor
Miriam Morton	Councillor
Tom O'Connor	Councillor
David Owen	Councillor
Sheila Paul	Councillor

Quorum – no less than five members

**Significance Consideration**

Evaluation: Council officers, in preparing these reports have had regard to Council's Significance and Engagement Policy. Council and Committee members will make the final assessment on whether the subject under consideration is to be regarded as being significant or not. Unless Council or Committee explicitly determines that the subject under consideration is to be deemed significant then the subject will be deemed as not being significant.

**Decision Making**

The Council, in considering each matter, must be:

- i. Satisfied that it has sufficient information about the practicable options and their benefits, costs and impacts, bearing in mind the significance of the decision;
- ii. Satisfied that it knows enough about and will give adequate consideration to the views and preferences of affected and interested parties bearing in mind the significance of the decisions to be made.

Stuart Duncan  
Chief Executive



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## OPENING

### 1 PUBLIC FORUM

There is no Public Forum held at this meeting.

### 2 APOLOGIES

### 3 VISITORS

### 4 CONFLICTS OF INTEREST

As per the Local Authorities (Members' Interests) Act 1968 (as below), the Chair will enquire if there are any Conflicts of Interest to be declared on any item on the agenda, and if so, for any member to declare this interest.

#### **Local Authorities (Members' Interests) Act 1968**

Councillors are reminded that if they have a pecuniary interest in any item on the agenda, then they must declare this interest and refrain from discussing or voting on this item and are advised to withdraw from the meeting table.

### 5 IDENTIFICATION OF MAJOR (URGENT) OR MINOR ITEMS NOT ON THE AGENDA

1. The Chair will call for any major (urgent business) or minor items not on the agenda to be raised according to Standing Orders, as below:

#### **a. Standing Orders 3.7.5 – Major Items**

An item not on the agenda for a meeting may be dealt with at the meeting if the local authority by resolution so decides, and the presiding member explains at the meeting at a time when it is open to the public –

- i. The reason why the item was not listed on the agenda; and
- ii. The reason why discussion of the item cannot be delayed until a subsequent meeting.

#### **b. Standing Orders 3.7.6 – Minor Items**

An item not on the agenda for a meeting may be dealt with at the meeting if –

- i. That item is a minor matter relating to the general business of the local authority; and
- ii. The presiding member explains at the beginning of the meeting, at a time when it is open to the public, that the item will be discussed at the meeting; but
- iii. No resolution, decision, or recommendation may be made in respect of that item except to refer that item to a subsequent meeting of the local authority for further discussion.

## **MINUTES**

### **6 CONFIRMATION OF MINUTES**

<b>6.1 MINUTES OF THE ENVIRONMENTAL SERVICES AND FINANCE COMMITTEE MEETING HELD ON 6 NOVEMBER 2018</b>
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**Author:** Karalyn Reid, Committee Secretary and PA to the Mayor

**Authoriser:** Tina Stevenson, Corporate Services Manager

**Attachments:** 1. Minutes of the Environmental Services and Finance Committee  
Meeting held on 6 November 2018

#### **PURPOSE**

For the unconfirmed Minutes of the Environmental Services and Finance Committee Meeting held on 6 November 2018 to be presented for confirmation.

<b>RECOMMENDATION</b>
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That the Minutes of the Environmental Services and Finance Committee Meeting held on 6 November 2018 be received and the recommendations therein be adopted.
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**MINUTES OF WAIMATE DISTRICT COUNCIL  
ENVIRONMENTAL SERVICES AND FINANCE COMMITTEE MEETING  
HELD AT THE COUNCIL CHAMBER, WAIMATE DISTRICT COUNCIL, WAIMATE  
ON TUESDAY 6 NOVEMBER 2018, COMMENCING AT 9.30AM**

**PRESENT:** Cr Sharyn Cain (Chair)

Cr Jakki Guilford, Mayor Craig Rowley, Cr David Anderson, Cr Peter Collins,  
Cr Miriam Morton, Cr Tom O'Connor, Cr David Owen, Cr Sheila Paul

**IN ATTENDANCE:** Stuart Duncan (Chief Executive)

Michelle Jones (Executive Support Manager), Carolyn Johns (Community and  
Strategy Group Manager), Leo Melani (Policy Analyst), Dan Mitchell (Asset  
Group Manager), Tina Stevenson (Corporate Services Manager), Melissa  
Thomson (Accountant), Karalyn Reid (Committee Secretary)

## **OPENING**

### **1 PUBLIC FORUM**

There were no members of the public attending the public forum.

### **2 APOLOGIES**

There were no apologies at this meeting.

### **3 VISITORS**

There were no visitors attending this meeting.

### **4 CONFLICTS OF INTEREST**

There were no conflicts of interest identified at this meeting.

### **5 IDENTIFICATION OF MAJOR (URGENT) OR MINOR ITEMS NOT ON THE AGENDA**

There were no major or minor items identified.

## **MINUTES**

### **6 CONFIRMATION OF MINUTES**

#### **6.1 MINUTES OF THE ENVIRONMENTAL SERVICES AND FINANCE COMMITTEE MEETING HELD ON 18 SEPTEMBER 2018**

##### **COMMITTEE RESOLUTION 2018/61**

Moved: Cr Jakki Guilford

Seconded: Cr Sheila Paul

That the Minutes of the Environmental Services and Finance Committee Meeting held on 18  
September 2018 be received and the recommendations therein be adopted.

**CARRIED**

## 7 RECEIPT OF MINUTES

### 7.1 RECEIPT OF MINUTES: LOWER WAITAKI SOUTH COASTAL CANTERBURY ZONE COMMITTEE

#### COMMITTEE RESOLUTION 2018/62

Moved: Cr Sheila Paul  
Seconded: Cr David Anderson

That the confirmed Minutes of the Lower Waitaki South Coastal Canterbury Zone Committee meeting held on 15 August 2018 are received.

**CARRIED**

### 7.2 RECEIPT OF MINUTES: ORARI-TEMUKA-OPIHI-PAREORA WATER ZONE COMMITTEE

#### COMMITTEE RESOLUTION 2018/63

Moved: Cr Jakki Guilford  
Seconded: Cr Miriam Morton

That the confirmed Minutes of the Orari-Temuka-Opihi-Pareora Water Zone Committee meeting held on 17 September 2018 are received.

**CARRIED**

## REPORTS

## 8 REGULATORY AND COMPLIANCE GROUP REPORT

### 8.1 REGULATORY AND COMPLIANCE GROUP REPORT

Community and Strategy Group Manager, Carolyn Johns, presented the report.

#### COMMITTEE RESOLUTION 2018/64

Moved: Cr David Anderson  
Seconded: Cr Sheila Paul

That the Regulatory and Compliance Group Manager's report is accepted.

**CARRIED**

## 9 CORPORATE SERVICES GROUP REPORT

### 9.1 CORPORATE SERVICES GROUP REPORT

#### COMMITTEE RESOLUTION 2018/65

Moved: Mayor Craig Rowley

Seconded: Cr Sheila Paul

That the Management Report – Corporate Services Group is accepted.

**CARRIED**

#### Note:

Operational Requests: The Environmental Services and Finance Committee requested that the public insert 'Helping You Save Money' to ratepayers be continued on an annual basis.

## 10 GENERAL REPORTS

### 10.1 BUDGET CARRY FORWARDS 2018/19

The Environmental Services and Finance Committee considered projects and capital items proposed to be carried forward to the 2018/19 financial year.

#### COMMITTEE RESOLUTION 2018/66

Moved: Cr Jakki Guilford

Seconded: Mayor Craig Rowley

1. That the Budget Carry Forwards to 2018/19 report is accepted; and
2. That the Environmental Services and Finance Committee receives and notes the carry forward of the listed amounts in the table, as presented.

**CARRIED**

## PUBLIC EXCLUDED

### 11 EXCLUSION OF THE PUBLIC REPORT

#### RESOLUTION TO EXCLUDE THE PUBLIC

#### COMMITTEE RESOLUTION 2018/67

Moved: Cr Jakki Guilford

Seconded: Cr Miriam Morton

That the public be excluded from the following parts of the proceedings of this meeting.

The general subject matter of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under section 48 of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

<b>General subject of each matter to be considered</b>	<b>Reason for passing this resolution in relation to each matter</b>	<b>Ground(s) under section 48 for the passing of this resolution</b>
<b>11.1 - Public Excluded Minutes of the Environmental Services and Finance Committee Meeting held on 18 September 2018</b>	s6(a) - the making available of the information would be likely to prejudice the maintenance of the law, including the prevention, investigation, and detection of offences, and the right to a fair trial	s48(1)(a)(i) - the public conduct of the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason for withholding would exist under section 6 or section 7
<b>11.2 - Alpine Energy Shareholders Report - September 2018</b>	s7(2)(b)(ii) - the withholding of the information is necessary to protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information  s7(2)(h) - the withholding of the information is necessary to enable Council to carry out, without prejudice or disadvantage, commercial activities	s48(1)(a)(i) - the public conduct of the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason for withholding would exist under section 6 or section 7

**CARRIED**

## **12 RE-ADMITTANCE OF THE PUBLIC REPORT**

<p><b>COMMITTEE RESOLUTION 2018/68</b></p> <p>Moved: Cr Sheila Paul</p> <p>Seconded: Cr David Owen</p> <p>That Council moves out of Closed Council into Open Council</p> <p style="text-align: right;"><b>CARRIED</b></p>
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## **MEETING CLOSURE**

The meeting closed at 9.58am.

The Minutes of this meeting are to be confirmed at the Environmental Services and Finance Committee Meeting scheduled for 18 January 2018.

.....  
**CHAIRPERSON**



## 7 RECEIPT OF MINUTES

### 7.1 RECEIPT OF MINUTES - LOWER WAITAKI SOUTH COASTAL ZONE COMMITTEE

**Author:** Karalyn Reid, Committee Secretary and PA to the Mayor

**Authoriser:** Tina Stevenson, Corporate Services Manager

**Attachments:** 1. Minutes LWSCCZ Committee - 21 November 2018 [↓](#)

#### PURPOSE

For the confirmed minutes of the Lower Waitaki South Coastal Canterbury Zone Committee Meeting held on 21 November 2018 to be presented for the information of the Environmental Services and Finance Committee.

#### RECOMMENDATION

That the confirmed minutes of the Lower Waitaki South Coastal Canterbury Zone Committee Meeting held on 21 November 2018 be received.

**LOWER WAITAKI SOUTH COASTAL CANTERBURY ZONE  
COMMITTEE MEETING MINUTES**

21 NOVEMBER 2018

**MINUTES OF WAIMATE DISTRICT COUNCIL  
LOWER WAITAKI SOUTH COASTAL CANTERBURY ZONE COMMITTEE MEETING  
HELD AT THE WAMATE EVENT CENTRE, CNR PAUL & WILKIN STREETS, WAIMATE  
ON WEDNESDAY 21 NOVEMBER 2018, COMMENCING AT 1.00PM**

**PRESENT:** Chair Kate White, Suzanne Eddington, Sandra Hampstead-Tipene, Andrew Hayes, Cr Jeremy Holding, Barney Hoskins, Daniel Isbister, Deputy Chairperson Mark Kingsbury, Bruce Murphy, Brent Packman,

**APOLOGIES:** Cr Jakki Guilford, Ranui Ryan, Cr Peter Scott

**IN ATTENDANCE:** Committee Secretary Karalyn Reid, Zone Manager Chris Eccleston; Zone Facilitator, Dave Moore

**OPENING**

The Chair Kate White welcomed members, introduced new member Jared Ross and asked Dave to read a karakia.

**1 APOLOGIES**

**COMMITTEE RESOLUTION 2018/28**

Moved: Cr Jeremy Holding

Seconded: Member Suzanne Eddington

That apologies from Cr Jakki Guilford, Ranui Ryan and Cr Peter Scott be received and accepted.

**CARRIED**

**2 VISITORS**

There were no visitors scheduled at this meeting.

**3 REGISTER OF INTERESTS**

There were no conflicts of interest raised at this meeting.

**MINUTES**

**4 CONFIRMATION OF MINUTES**

**4.1 MINUTES OF THE LOWER WAITAKI SOUTH COASTAL CANTERBURY ZONE  
COMMITTEE MEETING HELD ON 19 SEPTEMBER 2018**

**COMMITTEE RESOLUTION 2018/29**

Moved: Deputy Chairperson Mark Kingsbury

Seconded: Member Andrew Hayes

That the Minutes of the Lower Waitaki South Coastal Canterbury Zone Committee Meeting held on 19 September 2018 be received, and the recommendations therein be adopted, with the below amendment.

LOWER WAITAKI SOUTH COASTAL CANTERBURY ZONE  
COMMITTEE MEETING MINUTES

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CARRIED

**Amendment:**

Bruce Murphy commented on water efficiency (water quality vs water quantity) and open races leaking into shallow aquifers. A discussion was held around open races against piped schemes.

**4.2 MINUTES OF THE LOWER WAITAKI SOUTH COASTAL CANTERBURY ZONE  
COMMITTEE MEETING HELD ON 18 OCTOBER 2018**

**COMMITTEE RESOLUTION 2018/30**

Moved: Member Andrew Hayes

Seconded: Member Daniel Isbister

That the Minutes of the Lower Waitaki South Coastal Canterbury Zone Committee Meeting held on 18 October 2018 be received and the recommendations therein be adopted, with the below amendment.

CARRIED

**Amendment:**

Chair Kate White be corrected in the Opening section.

**Note:**

It was disappointing there was not a quorum of the Upper Waitaki Zone Committee Members.

**REPORTS**

**5 GENERAL BUSINESS**

**5.1 STANDING ITEMS**

To present the Standing Items below:

**Outward Correspondence**

- i. Letter to Steve Lowndes, Chair Environment Canterbury dated 12 November 2018. No reply to date.
- ii. Graham Clark, Chief Executive, Network Waitaki Ltd dated 1 November 2018

**5.2 TE REO WORDS**

Waihao – wai *meaning* water; hao *meaning* breed of eel. *Water of the hao eel*

Waimate – wai *meaning* water; mate *meaning* dead or descending. *River goes underground*

Wainono – wai *meaning* water; nono *meaning* creeping or seeping water

**5.3 LOWER WAITAKI ZONE COMMITTEE FACILITATOR'S UPDATE - NOVEMBER 2018**

Dave Moore provided the Committee with updates on the below:

- a. The Committee accepted the meeting dates for 2019 and agreed to continue meeting at the Waimate Event Centre. It was suggested first meeting to be held at the Marae, and a field trip to be arranged in March incorporating the Waihao Box, Waihaorunga.

LOWER WAITAKI SOUTH COASTAL CANTERBURY ZONE  
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Another identified area to visit is Meyers Pass

- b. 'Reporting Back' section now live on ECan website
- c. Canterbury Southern Black-backed Gull/ Karoro strategy draft provided for the information of the Committee
- d. 'Check Clean Dry' Behaviour Change Campaign
- e. Omnibus Plan Change 2019 – update from Andrea Richardson
- f. BRIDGE (Braided Rivers) – update from Tania Harris
- g. Maps. The Chair asked for a map of the Zone, and the streams and creeks within the zone. ACTION POINT: DAVE

**5.4 ZONE MANAGER'S REPORT**

The PC5 is expected to return to ECan and become active by April. The Committee asked for an update on both PC3 and PC5 (one-page) to be sent out to members ACTION POINT: DAVE and a staff member from ECan to come to the December meeting to update the Committee on the planning process. ACTION POINT: DAVE

Implications from the Long Term Plan has allowed staff to be more focused on wilding pine and wallaby control.

Chris tabled an Immediate Steps Funding proposal from Kennedy for Otiake Springs Wetland Protection, which received support from the Committee. Signage is important. The Committee asked that Kennedy be invited to update the Committee on projects. ACTION POINT: DAVE

**COMMITTEE RESOLUTION 2018/31**

Moved: Member Andrew Hayes

Seconded: Member Bruce Murphy

That the Immediate Steps Funding 'Otiake Springs Wetland Protection' proposal be supported.

**CARRIED**

**5.4 CWMS FIT FOR FUTURE**

Dave gave the Committee an update on Fit for Future Project, outlined and asked for feedback on the draft 2025 and 2040 goals for the CWMS, the targets and the proposed work programme.

The following tables summarises the feedback:

LOWER WAITAKI SOUTH COASTAL CANTERBURY ZONE  
COMMITTEE MEETING MINUTES

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Appendix 2 - Targets and Proposed Work Programmes		
Target	Proposed work programmes	Key actions needed Who needs to do more (and what is it)? Any gaps (for this zone)?
<i>Drinking water</i>	<p><b>Alignment of regional and district plans</b> – identify areas in plans that are barriers to CWMS targets</p> <p><b>Drinking water standards</b> – a programme to focus on private supplies; improvement programme for community supplies, including better compliance</p> <p><b>Comms/education</b> – develop guidance documents aimed at consistent regional application; turn data and monitoring into information that the community can use</p> <p><b>Measuring and monitoring</b> – develop a comprehensive groundwater monitoring programme</p> <p><b>Possible contaminants</b> – develop a watchlist</p>	<p><b>Key actions needed</b></p> <p><b>Alignment –</b></p> <ul style="list-style-type: none"> <li>water to stock</li> <li>community and public health view</li> <li>should be district councils – why should regional councils be involved</li> <li>where do private schemes fit in?</li> <li>affordability for councils</li> </ul> <p><b>Comms –</b></p> <ul style="list-style-type: none"> <li>community knowing where / how it can be accessed</li> <li>website does not work well</li> <li>better at getting the data out to the community – good, bad and ugly – and what is being done about it</li> <li>Consistent messaging (Waitaki DC)</li> </ul>
<i>Recreation and amenity</i>	<p><b>Measuring and monitoring</b> – develop recreational base data (flow, quality, site) and model future trends in recreation; review science behind flow regimes and flow limits</p> <p><b>Protection</b> – identify options and priorities by zone for protection and enhancement; review consents to ensure flows are met</p>	<p><b>Key actions needed</b></p> <ul style="list-style-type: none"> <li>Less fishing in rivers and lakes, more in canals</li> <li>Didymo effect on jet boats</li> <li>Access</li> <li>Launching ramps</li> <li>Coordination of groups</li> <li>Tourism</li> <li>Cycle trail</li> </ul>
Target	Proposed work programmes	Key actions needed Who needs to do more (and what is it)? Any gaps (for this zone)?
		<ul style="list-style-type: none"> <li>Communications – provision of information and what is happening</li> <li>We already have the base data from various sources</li> <li>Groundwater monitoring first</li> </ul>
<i>Ecosystem health and biodiversity</i> <i>Drained rivers</i>	<p><b>Comms/education</b> – use social science to develop tools for behaviour change</p> <p><b>Funding</b> – provide funding for landowners to make changes, including for land retirement</p> <p><b>Regulation</b> – review flow regimes, including considering use of Cawthron methodology</p> <p><b>At risk ecosystems and restoration targets</b> – identify the ecosystems at risk and critical source areas (including groundwater); identify restoration areas</p> <p><b>Measuring and monitoring</b> – improve monitoring so success against goals can be measured</p>	<p><b>Key actions needed</b></p> <ul style="list-style-type: none"> <li>Bring schools in</li> <li>Be specific about what funding can be used for</li> <li>Mahinga kai – within everything</li> <li>Urban affects together with rural</li> </ul> <p><b>gaps</b></p> <ul style="list-style-type: none"> <li>Where do bird island fit? How to maintain improvements already made</li> <li>Water quality monitoring – collecting the information together – integrated monitoring framework</li> </ul>
<i>Environmental limits</i>	<p><b>Measuring and monitoring</b> – measure and review progress on meeting limits, and report to the community, sector groups, Ngai Tahu etc.</p> <p><b>Regulation and adaptation</b> – review limits in plans and the on-ground actions being taken to meet limits to assess their effectiveness.</p>	<p><b>Key actions needed</b></p> <ul style="list-style-type: none"> <li>How to get this to as many as people as possible</li> <li>Target audiences</li> <li>Has that worked???</li> <li>Urban effects together with rural</li> </ul> <p><b>Who needs to do more (and what is it)?</b></p> <ul style="list-style-type: none"> <li>Industry –</li> <li>Urban populations</li> </ul>
<i>Kaitiakitanga</i>	<b>Marae</b> – ensure marae drinking water quality and availability (led by <u>ruanga</u> )	<b>Key actions needed</b>

LOWER WAITAKI SOUTH COASTAL CANTERBURY ZONE  
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Target	Proposed work programmes	Key actions needed Who needs to do more (and what is it)? Any gaps (for this zone)?
	<p><b>Measuring and monitoring</b> - identify Mātauranga indicators.</p> <p><b>Protection zones</b> - develop actions plans for protection zones (led by Papetipu).</p> <p><b>Identify and use a generic process</b> for actions towards goals (e.g. improved mahinga kai) with year by year action plans, lead agencies, funders, communications.</p> <p><b>Align work programmes</b> with existing Tuia/Ngāi Tahu programmes.</p> <p><b>Comms/education</b> - develop programme for community understanding of kaitiaki-ranga.</p>	<ul style="list-style-type: none"> <li>• Talk to local rūnanga.</li> <li>• Mātauranga indicators to be accepted, and possibly to be integrated.</li> <li>• Rock art.</li> <li>• Springs.</li> </ul> <p><b>gaps</b></p> <ul style="list-style-type: none"> <li>• Access to customary rights.</li> <li>• Barriers to access.</li> <li>• Communication / education and what is happening.</li> </ul>
<b>Irrigated land area and reliability</b>	<p><b>Infrastructure</b> - need to develop regional strategic storage to improve reliability.</p> <p><b>Innovation</b> - innovation support and technology needed to allow exploration of new farm systems and alternative land use.</p> <p><b>Comms/education</b> - improve irrigation scheme collaboration; develop education programme for the public, schools etc.</p> <p><b>Funding</b> - need to explore new options for infrastructure.</p> <p><b>Measuring and monitoring</b> - improve data and information collection and analysis.</p>	<p><b>Key actions needed</b></p> <ul style="list-style-type: none"> <li>• Everything in moderation.</li> <li>• Broaden the discussion to opportunities.</li> <li>• More schools to be able to access Enviro School programme.</li> <li>• Should this be a more general target around agriculture or land use. All farming needs to develop methods for improving infrastructure.</li> <li>• Is this the right forum to discuss funding???</li> </ul> <p><b>Who needs to do more (and what is it)?</b></p> <ul style="list-style-type: none"> <li>• Irrigation schemes / bodies integrated to community.</li> </ul>
<b>Water use efficiency</b>	<p><b>Innovation</b> - increase use of new technology, such as automated control systems.</p> <p><b>Benchmarking</b> - allocation and efficiency measurement to drive better water use.</p> <p><b>Measuring and monitoring</b> - develop better methods for collecting and analysing water use.</p>	<p><b>Key actions needed</b></p> <ul style="list-style-type: none"> <li>• This needs to be across the whole spectrum.</li> <li>• ...and effect on environment.</li> </ul>
Target	Proposed work programmes	Key actions needed Who needs to do more (and what is it)? Any gaps (for this zone)?
	<p>efficiency data.</p> <p><b>Regulation</b> - new allocation models are needed.</p>	<ul style="list-style-type: none"> <li>• Are we clear what "efficiency" means - does this include the maintenance of quality?</li> <li>• Why are new allocation models needed??</li> <li>• Fairer, informed system.</li> </ul> <p><b>Who needs to do more (and what is it)?</b></p> <ul style="list-style-type: none"> <li>• Ecan to update the data - instantaneous take over allocation.</li> <li>• What is coming out of the rivers?</li> <li>• What is available?</li> <li>• Feedback and results on what has changed.</li> </ul> <p><b>Any gaps (for this zone)?</b></p> <ul style="list-style-type: none"> <li>• Are there misunderstandings in this area - from the irrigation discussion.</li> </ul>
<b>Energy security and efficiency</b>	<p><b>Benchmarking</b> - better measurement to allow benchmarking of energy efficiency.</p> <p><b>Innovation</b> - develop understanding of new technology.</p>	<p><b>Key actions needed</b></p> <ul style="list-style-type: none"> <li>• Power companies to meet minimum flows.</li> <li>• Nationally, looking at other alternative energy sources.</li> </ul> <p><b>gaps</b></p> <ul style="list-style-type: none"> <li>• Alternative energy sources.</li> </ul>



LOWER WAITAKI SOUTH COASTAL CANTERBURY ZONE  
COMMITTEE MEETING MINUTES

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**GENERAL**

**WAIHAO BOX**

Bruce Murphy updated the Committee that the Waihao Box was currently open and working well, with a 40m channel to the north and predominately river water existing. There is a build-up of tree material that needs to be removed from the south side and front (broken stumps). ECan river engineering to investigate. ACTION POINT - DAVE

Both braids of the Waihao are currently running. It has been noted a digger took out shingle for planting (against the bridge on north side against road) to protect the bridge embankment (most likely Transit).

**SLOPE CULTIVATION**

Mark Kingsbury highlighted concerns of heavy rain, and that farmers should be encouraged to make buffer areas to help against soil erosion. More education is needed on slope cultivation, and what can happen in severe weather events on crops planted greater than 15% with no buffer zones.

Jared Ross commented Beef and Lamb/Dairy NZ have run autumn education farm workshops.

**SHINGLE EXTRACTION**

Suzanne Eddington commented on the shingle extraction currently underway at the Pareora riverbed and Makikihi riverbed and asked for rules and regulations are around shingle extraction, and how much can be taken. ACTION POINT - DAVE

John Benn DOC commented on Fit for Future – Merging Contaminants: European Community had recently voted to put a very strict limit on the amount of cadmium in phosphate fertilisers (60ppm or 60mg/L). This could have economic and environmental implications in the future, as many countries followed, or were influenced by European environmental standards. Much of New Zealand's imported phosphate fertiliser comes from North West Africa, which has some of the highest cadmium levels of all phosphate fertilisers.

**REFRESH**

Mark Kingsbury and Andy Hayes have stood down.

Chair Kate White commented that few people on the Committee actually live in the Zone, and concerned there are not enough 'ears on the ground'. She went on to say Emily Anderson previously worked for ECan, lives on other side of Waitaki River, and could address a gap on Committee. The Committee agreed Emily has been involved in setting up catchment groups in St Andrews-Waimate area and is highly thought of farmers.

There was a discussion to look at the ability to co-opt members on to the Zone Committee.  
ACTION POINT - DAVE

**MEETING CLOSURE**

There being no further business, the Chair closed the meeting at 3.40pm, and asked Dave to close with a karakia.

The minutes of this meeting are to be confirmed at the next Lower Waitaki South Coastal Canterbury Zone Committee Meeting.

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**CHAIRPERSON**

<b>7.2</b>	<b>RECEIPT OF MINUTES - ORARI-TEMUKA-OPIHI-PAREORA ZONE COMMITTEE</b>
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**Author:** Karalyn Reid, Committee Secretary and PA to the Mayor

**Authoriser:** Tina Stevenson, Corporate Services Manager

**Attachments:** 1. OTOP Minutes - 26 November 2018 [↓](#)

**PURPOSE**

For the confirmed minutes of the Orari-Temuka-Opihi-Pareora Water Management Committee Meeting held on 26 November 2018 to be presented for the information of the Environmental Services and Finance Committee.

<p><b>RECOMMENDATION</b></p> <p>That the confirmed minutes of the Orari-Temuka-Opihi-Pareora Water Management Committee Meeting held on 26 November 2018 be received.</p>
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**Orari-Temuka-Opihi-Pareora Zone Water Management Committee**

**Minutes of an Orari-Temuka-Opihi-Pareora Zone Water Management Committee Meeting held in the Council Chamber, Timaru District Council, 2 King George Place, Timaru, on Monday 26 November 2018 at 2pm**

**Present** Hamish McFarlane (Chairperson), Phil Driver, Sue Eddington, John Henry, Kylee Galbraith, Ivon Hurst, Clr Anne Munro, Clr Richard Lyon, Clr Lan Pham, Ad Sintenie, Glen Smith, Herstatt Ullrich and Mark Webb

**Apologies** Proposed Mark Webb  
Seconded Lan Pham

“That apologies from Clr David Anderson and James Pearse be accepted, and Clr Richard Lyon for lateness.”

Motion carried

**In Attendance** Lesley Woudberg (Facilitator), Clr Peter Scott (ECan), Craig Davison (ECan), Lyn Carmichael (ECan), Mellissa Robson-Williams, Lochiel McKellar (ECan), Kate Doran (ECan), Prue Thirkettle, Matthew Ross (TRONT), Trina Davidson (TRONT), Lionel Hume (Federated Farmers), John Benn (Department of Conservation)

**Karakia** Hamish McFarlane welcomed everyone to the formal meeting.

**1. Declaration of Interests**

Herstatt Ullrich declared that he has been elected to the Board of Directors of Opuha Water Limited.

**2. Confirmation of Minutes**

Proposed Sue Eddington  
Seconded Anne Munro

“That the minutes of the Orari-Temuka-Opihi-Pareora Water Zone Committee meeting held on 8 October 2018 be confirmed.”

Motion carried

**3. Correspondence – letter from Auditor General**

The Committee received correspondence from the Auditor General.

**4. Activities and Actions around the Committee**

The Committee noted the Otupua-Saltwater Creek Catchment Group launch meeting (29 October 2018). More than 50 people attended the meeting, Mark Webb gave an update during the General Business part of this meeting. The next meeting is scheduled for 29 November 2018.

**5. Community Forum**

Nil.

**6. Zone Implementation Programme Addendum (ZIPA)**

Proposed Kylee Galbraith  
Seconded Ad Sintenie

"That the Committee adopts the Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum December 2018 subject to the changes made during the workshop on 26 November 2018."

Motion Carried

Clr Lan Pham acknowledged this is a milestone for the Committee and took a moment to reflect on the process –

- Thanked the Committee members for their time and commitment throughout this process.
- Thanked John Talbot (former Chair) and the late Mandy Waaka-Home (Te Rūnanga o Arowhenua representative) for their commitment and contributions to the ZIPA.
- Thanked the staff for their assistance and diligence.
- Noted the non-statutory components of the ZIPA and that responsibility now passes to the four Councils to deliver with funding and resources, so the Committee and community see results.
- Apologised to the community that this is still far from where we want to be, but the Committee is proud of this step forward to achieving the outcomes that the community desires.

Clr Peter Scott quoted Winston Churchill –

- *"This is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning."*
- Acknowledged the significant amount of work done by all people involved.
- Acknowledged the community who fed into the process.
- Acknowledged staff, in particular Lyn Carmichael, Craig Davison and Dan Clark.
- Acknowledged John Henry's contribution in particular over the past six months, including clarifying to the Committee the role and position(s) of Te Rūnanga o Arowhenua.

- Acknowledged Hamish McFarlane for his chairmanship of the Committee.

Clr David Anderson (by email, read by Hamish McFarlane) –

*My congratulations and appreciation to the OTOP committee and ECan staff for the work and effort they have all put into getting the draft ZIPA completed.*

*We have all had to make compromises and readjustments to our views to come up with a truly consensus view. But we now placed have a serious stake in the ground which our community can monitor and measure water quality improvements in the OTOP region.*

Clr Richard Lyon acknowledged Dermott O’Sullivan (a former Chair of the Committee) for his early contributions to the process.

Hamish McFarlane –

- Thanks to the Committee, everyone has learnt a lot throughout this process and handled the pressure well.
- Members have stayed true to their ideals and the ZIPA is a strong document which reflects the different personalities of each of us.
- Future generations will be the judge, but hopefully the members are proud of where the group has got to.
- Appreciative of all the ideas and robust discussions that went into this document, and members must keep staying true, and having new ideas because everyone is still acting towards a bigger picture.
- “[A masterpiece] is never finished, only abandoned.” – Leonardo da Vinci
- Special thanks to the four committee members who are leaving at the end of 2018 for the time they have put in to this document (Kylee Galbraith, Ivon Hurst, Ad Sintenie and James Pearse).

Hamish McFarlane congratulated all the Committee members.

Proposed Phil Driver  
Seconded Ivon Hurst

“That the Orari-Temuka-Opihi-Pareora ZIPA remains embargoed until 14 December 2018.”

Motion Carried

## 7. Fit for Future Project

Lesley talked about the CWMS Fit for Future Project (FFF)

- There is a process in place for setting intermediary targets
- The FFF team is planning to present a draft set of targets at the Mayoral Forum in April 2019.
- While there has been little direct engagement with the OTOP Zone Committee due to its recent focus on the ZIPA, the Committee’s draft

recommendations have been continually fed to the FFF team, to make sure OTOP targets have been aligned with the work.

- Other Zone Committees have been considering work and feeding back about the draft targets.
- Committee Members are invited to review the draft work programme and send individual responses (Lesley Woudberg to circulate feedback details). Feedback on work programmes will ideally be submitted before the Christmas break.
- The Committee can also provide feedback in the new year via Hamish McFarlane, who sits on the Regional Committee.

Cr Lan Pham asked that "Cultural Sites" be included in the table (Slide 9).

#### 8. Omnibus Plan Change 2019

The Facilitator introduced the paper.

- Timeframes for Omnibus Plan Change to be aligned with the OTOP Plan Change (and Waimakariri).
- The Omnibus responds to region-wide issues in the Canterbury Land and Water Regional Plan, topics are outlined in the paper.
- The Committee will engage more on this Plan Change next year.
- Anne Munro asked how often Omnibus Plan Changes happen?
- Staff response – approximately 4 year cycles from the last one being made operative, they are a clean-up, or tweaking tool. This one has a region-wide focus, but that does not rule out having more catchment specific ones in the future. Cllr Peter Scott also noted that the frequency of future omnibus plan changes is also dependent on staff capacity.

#### 9. Canterbury Black-backed Gull/Karoro Strategy

The Facilitator gave a brief summary of the paper. She will mail out hard copies as some Committee members are having trouble viewing the document on screens.

#### 10. Committee Members retiring

Hamish McFarlane noted that this is the last meeting for Committee Members Kylee Galbraith, Ivon Hurst, Ad Sintenie and James Pearse (apology due to extreme weather).

Ivon Hurst –

- Noted the importance for the membership of committees like this to change over to ensure continued new ideas and initiatives. *"Indeed it has been said that democracy is the worst form of Government except for all those other forms that have been tried from time to time"* – Winston Churchill. The diverse views of the Committee mean the document (ZIPA) produced will please some people in some regards, and others in other regards.
- Thanked Committee members and wished them all the best for the future.

Ad Sintenie –

- Has been on the committee since its inception, approximately 8 years ago. The beginning was about asking where people would like to be in 2, 5 and 10 years time.
- Things are moving in the right direction, but it would have been nice if goals were achieved at a faster pace, where we are now was probably a 5 year goal, but the direction is right.
- The committee must keep thinking about the world and making rivers clean and healthy for the next generations.

Kylee Galbraith –

- Has learnt a lot being on the committee (membership of approximately 5 years). Has been glad to stay and see the ZIPA through.
- Everyone has been unhappy in certain decisions but sometimes we must be realistic.

This document (ZIPA) is the first step and will result in good improvements, but there is a long way to go!

Hamish McFarlane thanked Kylee Galbraith, Ivon Hurst, Ad Sintenie and James Pearse for their service to the Committee.

#### **11. General Business**

- Mark Webb – attended the first Otupua-Saltwater Creek Catchment meeting, it was to provide general information about the catchment. The meeting later this week will be about forming a catchment group. They are expecting reasonable attendance/turnout given the numbers at the last meeting.
- Hamish McFarlane – would like to include correspondence received by members of the community in future meeting agendas. The Committee supports this inclusion.
- Hamish McFarlane – would like to do a debrief with the committee in the new year about the process of writing the ZIPA and how they did things, also what worked and what did not work.

The meeting concluded at 2:46pm with a karakia from John Henry.

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Chairperson



## REPORTS

### 8 REGULATORY AND COMPLIANCE GROUP REPORT

#### 8.1 REGULATORY AND COMPLIANCE GROUP REPORT

**Author:** Paul Cooper, Regulatory and Compliance Group Manager

**Authoriser:** Paul Cooper, Regulatory and Compliance Group Manager

**Attachments:** 1. Project Report [↓](#)

#### PURPOSE

To provide updates on the Regulatory and Compliance Group activities.

#### HIGHLIGHTS

##### Resource Management

1. A resource consent application for land use consent is currently being processed by Council for Oceania Dairy Limited to expand the existing industrial activity on their 37.25ha site at 30 Cooneys Road and establish additional buildings, including the construction of a second dryer tower with process area and ingredients day store warehouse, a second boiler, a third dry-store and environmental load-out area, a fire water tank and pump, a tanker workshop and fuel depot, additional offices, a storage compound, and relocation of a by-product dryer previously approved but not yet constructed (Stage 3 Development). Currently, 265 staff are associated with the operation of the Oceania Dairy Factory as consented in previous stages of development. This proposed Stage 3 development is anticipated to result in an additional 50 staff.

##### Civil Defence

2. The annual Civil Defence Emergency Management (CDEM) exercise called "Pandora" took place on 4 and 5 of October. The first day was a workshop attended by multiple agencies as well as a large showing from Council. The workshop focussed on the SAFER Framework project, better known as AF8, which is a government-funded collaboration between scientists and CDEM specialists assessing the worst-case scenario of a magnitude 8 rupture of the Alpine Fault and its possible consequences. Emergency services, lifelines providers and Council alike were able to see each other's strengths and weaknesses and better understand the potential impacts of a large earthquake on the Waimate District and surrounding areas. The learnings from the exercise will inform future CDEM planning for the district. Council staff then took the opportunity to practice an activation of the Emergency Operations Centre (EOC) in light of the learnings from the workshop on the second day.
3. Carolyn Johns was voted in as the Chairperson of the South Canterbury Civil Defence Emergency Management Coordinating Committee. The committee was established in late 2017 as a forum chaired by a Controller from one of the three Councils who are members (Waimate, Mackenzie and Timaru) where collaboration and understanding can be fostered between agencies in the CDEM arena. Members are represented by mid to senior level managers from the emergency services, NZTA, the district health board, ECan, Canterbury CDEM Group and PrimePort. The fact that a Waimate person has taken on this role reflects well on the Waimate District Council and Carolyn will no doubt ensure that the forum continues to add value for the Waimate District and the wider South Canterbury area.
4. Recently we advertised for a CDEM Controller role for the Waimate District. The role demands a particular type of candidate with a suite of skills and relevant experience to enable that person to lead a multi-agency response and manage the complexities therein. I

am pleased to report that a relatively recent arrival to the district has come forward and expressed a strong interest in the role. Mike Downes comes to the CDEM team from careers in the Royal New Zealand Navy as a Marine Engineering Officer and as a senior manager within a global shipping company. We are looking forward to getting to know Mike and training with him as he works toward becoming a CDEM Local Controller.

Hilary Botting left vacant the Emergency Management Officer role when she moved out of district to pastures new toward the end of last year. The role was for 3 days; however, a look at how we deliver activities at a more holistic level provided us with the opportunity to make some changes. A new role of Emergency Management and Health & Safety Officer has been established and advertised. It will be a 4-day role with the responsibility for the Health & Safety activity shifting from Human Resources to the Regulatory and Compliance Group.

### Resource Management

5. The following 10 resource consents have been granted under delegated authority for the 1 October – 31 December 2018 quarter:

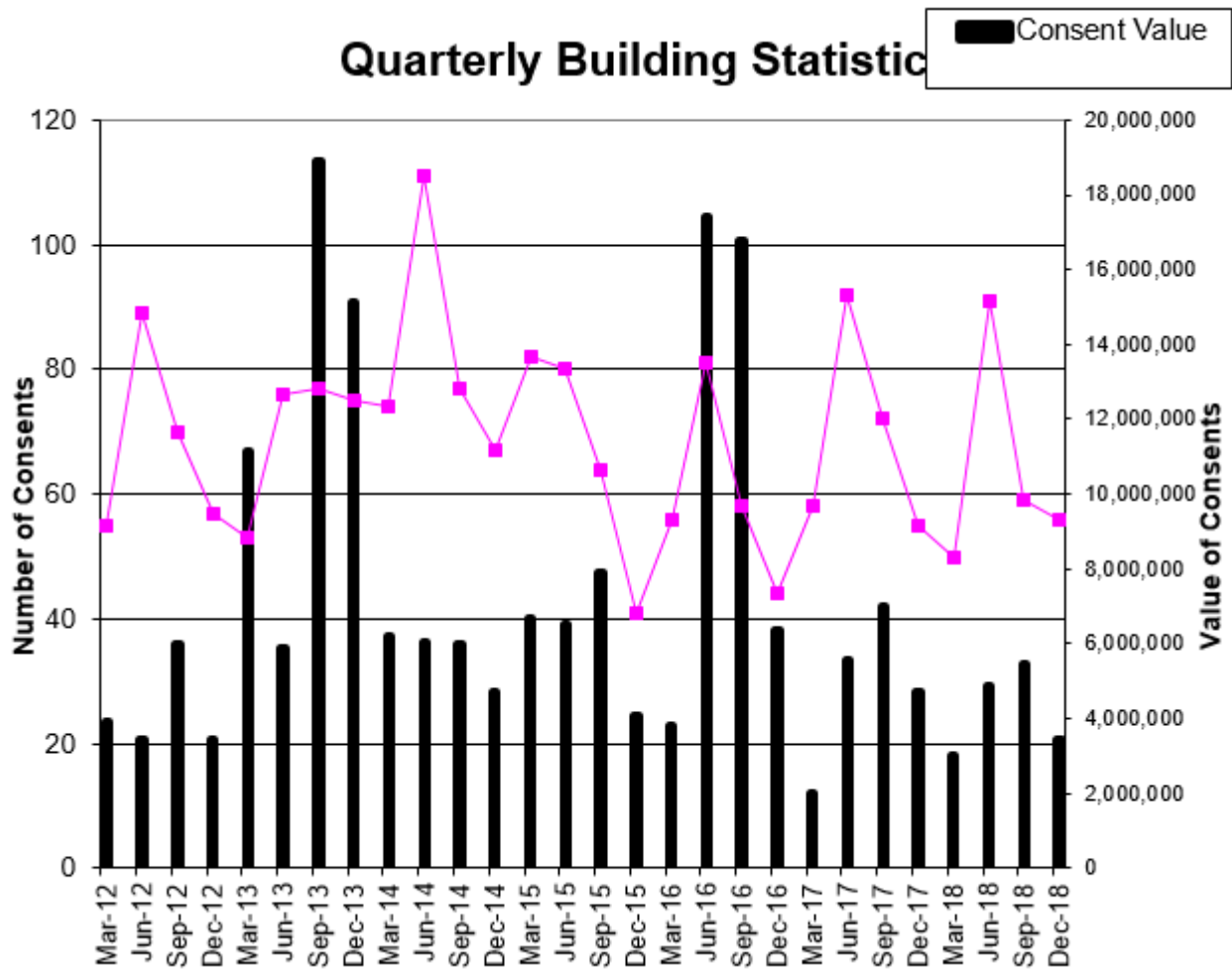
RM180039	<b>Section 226 Certification for separate titles for Section 7, Sections 14 &amp; 15 Block II Township of Morven</b> KJ & Sons Limited Murphy Street, Morven <i>Processing Days = 18 out of 20</i>	01/10/18
RM180041	<b>Subdivision: Create 5 rural lots to be comprised in 4 titles and create a corner splay</b> Fairway Enterprises Limited 513 Clarksfield Road, Grassy Hills Road, Elephant Hill <i>Processing Days = 17 out of 20</i>	16/10/18
RM180042	<b>Deemed Permitted Marginal Activity: Locate pump shed 6.2m from road boundary in lieu of 7.5m requirement</b> Mt Parker Station Limited 4194 Hakataramea Highway, Elephant Hill <i>Processing Days = 1 out of 10 (fast track)</i>	16/10/18
RM180043	<b>Land Use: Locate garage at road boundary in lieu of 7.5m requirement</b> PJ Galvin 5941 Hakataramea Highway <i>Processing Days = 1 out of 20</i>	17/10/18
RM180044	<b>Section 226 Certification for separate title for Lot 1 DP 9735</b> H & S McGowan 42 Willowbridge Road, Willowbridge <i>Processing Days = 9 out of 20</i>	05/11/18

RM180045	<b>Land Use: Remove existing verandah of heritage building and replace with different verandah design</b> Waimate Property Holdings Limited 112-114 High Street/Queen Street, Waimate <i>Processing Days = 15 out of 20</i>	14/11/18
RM180048	<b>Deemed Permitted Marginal Activity: Alpine Data Networks Data Centre</b> Alpine Energy Limited Centrewood Park Road (Whitehorse site) <i>Processing Days = 6 out of 10 (fast track)</i>	21/11/18
RM180047	<b>Subdivision: Create 6 rural lots and amalgamations</b> Limestone Hills Waimate Limited 233 Parkers Bush Road & Limestone Hills Road, Waimate <i>Processing Days = 19 out of 20</i>	20/11/18

#### Building Control

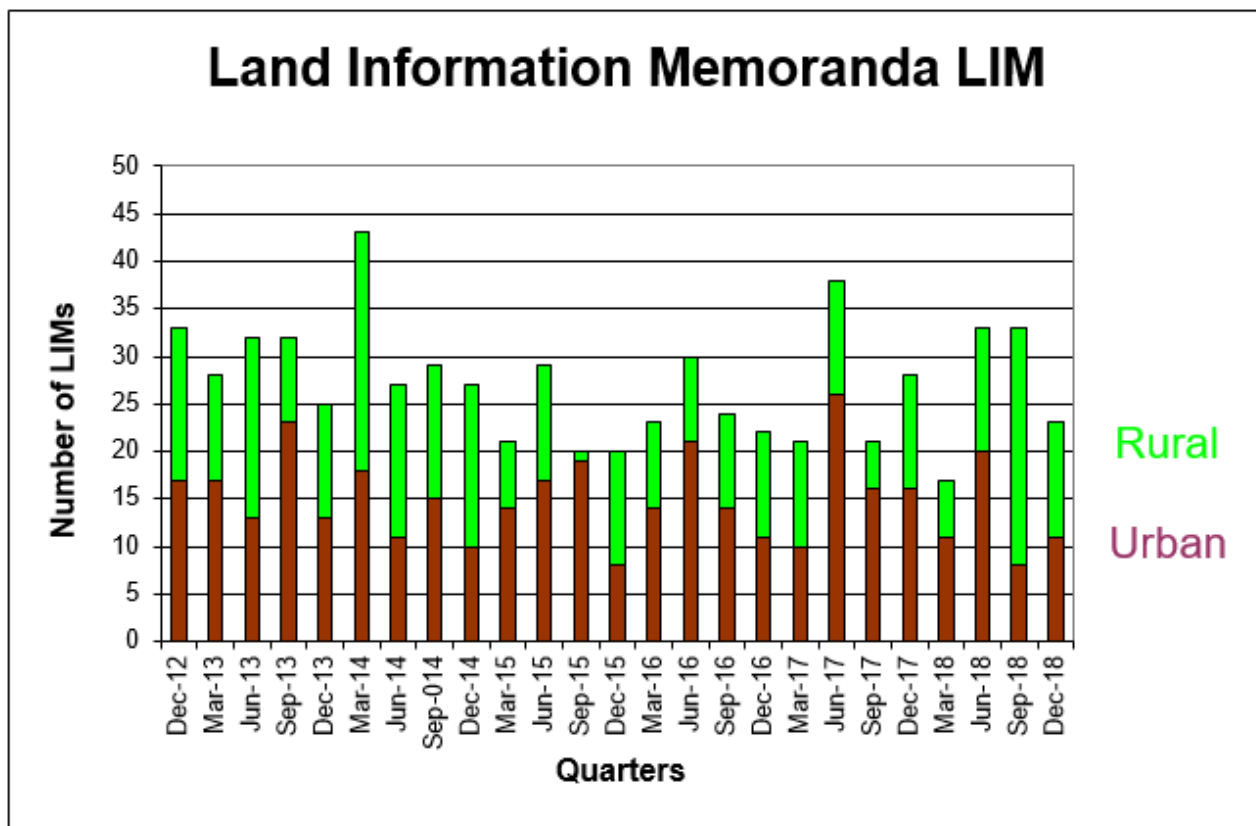
- 56 building consents were issued for the period 1 October – 31 December 2018 with a value of \$3,423,676 (2017 for the same period was 55 building consents with a value of \$4,707,627).





### Land Information Memoranda (LIM)

7. 23 LIM Reports were issued for the period 1 October - 31 December 2018. These related to 11 urban and 12 rural properties.



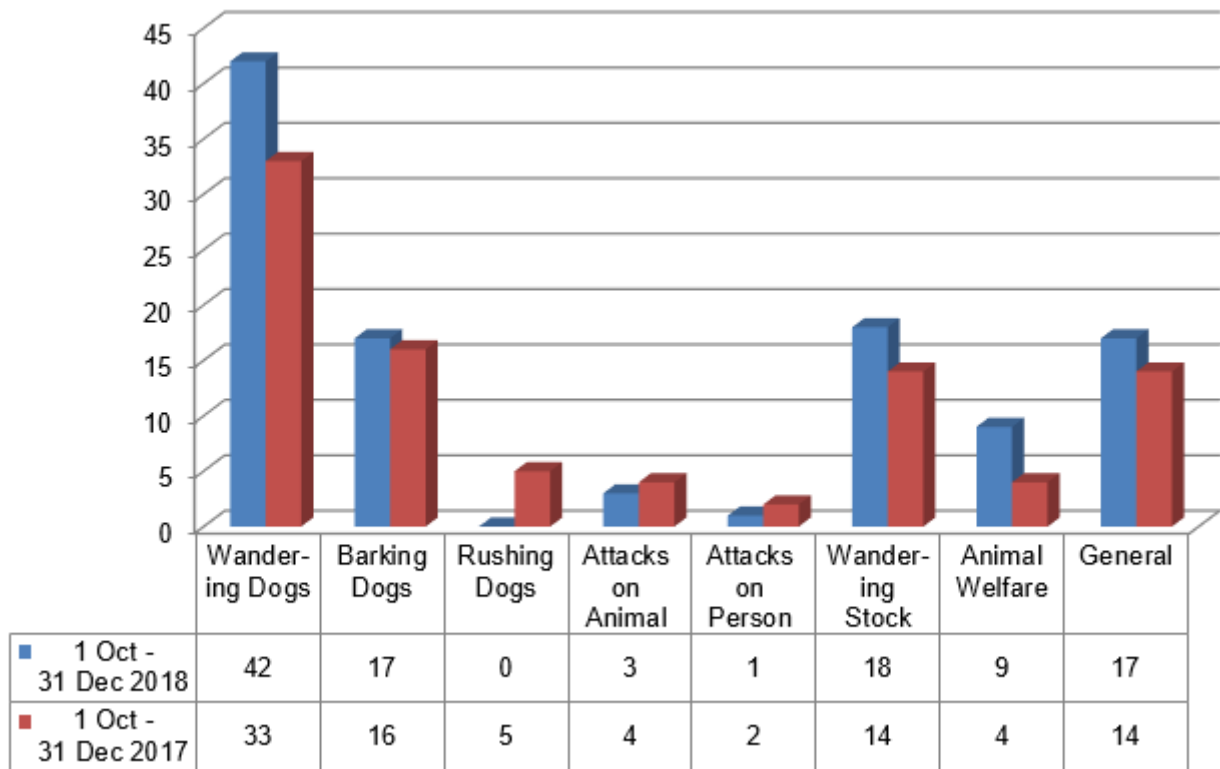
### Dog and Animal Management

#### Dog Registration

8. Dog registration 1 October-31 December 2018 and the 2017 comparison.

Month	2018			2017		
	Registered dogs	Unregistered dogs	Owners with unregistered dogs	Registered dogs	Unregistered dogs	Owners with unregistered dogs
October	2,813	41	28	2,801	36	25
November	2,830	19	12	2,838	19	13
December	2,853	4	3	2,852	10	8

9. Dog and Animal Control Corrective Action Requests (CARs) 1 October to 31 December 2018 and the 2017 comparison:



Civil Defence

Level of Service	How we do it	Performance Measure	Compliance Target Years	Quarterly Performance Report 6 Months July- December
Improve individual, community and business awareness of the risks from hazards and assist them to build resilience to emergency events	<p>Educate and inform the public and businesses about the risks to their communities from hazards via presentations, media campaigns and printed material in order to improve community resilience</p> <p>Review Civil Defence Plan</p> <p>Identify hazards that require research for risk reduction and assist in the delivery of results from research as part of ongoing community education</p> <p>Provide training for volunteers and staff so they can respond to emergency events in a manner that supports our communities</p> <p>Monitor hazard information and events as they progress</p>	Number of emergency management community engagement activities	6 per year	<p>Radio checks were performed 4 September and 11 December.</p> <p>Two meeting were held with community in development of the Makikihi/Hunter/Hook Community Response Plan.</p>
Civil Defence Emergency Management personnel appropriately trained and prepared to assist community in the event of an emergency	<p>Civil Defence Emergency management personnel and partner agencies participate in in-house/regional/national exercises</p> <p>Civil Defence Emergency management personnel attend training courses</p>	Annual Group exercise	1 annually	Exercise Pandora AF8 Pre-planning Workshop was held on 4 October with multiple external agencies involved.
		Civil Defence Emergency Management personnel within the EOC offered training	2 training opportunities per year	<p>One Emergency Operations Centre 1 training was held on 9 July for new council staff.</p> <p>Part 2 of Exercise Pandora on 5 October was a training to set up the EOC, test systems and identify any gaps.</p>

**RECOMMENDATION**

That the Regulatory and Compliance Group Manager's report is accepted

## Regulatory and Compliance Group Project List

Financial Year	Project	Project Description	Budget	Spend to Date	% Complete	Status		Comments / Issues / Risks / Reasons
						Time	Budget	
Regulatory and Compliance Group								
2018/19	Mobile inspections	Introducing new electronic entry of data in the field. Moved to GoGet as a less complex and more efficient solution. Able to be completed from existing budget.	\$40k	\$42,480.00	100%			Project complete.
2018/19	GoGet Electronic Processing	To provide electronic access for building consent processes.	TBA	\$0.00	0%			Project to follow the mobile inspections.
2018/19	Electronic filing of Building Consents	Ability to lodge and pay for building consents online. Anticipate project start July 2019.	TBA	\$0.00	0%			Anticipate project start July 2019 to align with IANZ Assessment.
2016/18	Bylaw Review	Undertake a full review of all Bylaws	Internal resources		100%			Consolidated Bylaws completed 4 December 2018
2018/19	Earthquake Prone Building Initial Assessments	Setting up processes and structure to undertake the initial assessments under the new legislation	Internal resources - other costs unknown at this time	\$0.00	0%			TA function as opposed to a BCA function
2017/22	District Plan Review	10 year review of District Plan		\$0.00	0%			Not started
	Swimming Pool Registration and Monitoring Project	Monitoring of Pools as required by changes to the Building Act	Internal resources		10%			Register of approximately 180 completed. Next step is to liaise with the community, inspect and register swimming pools, spa pools and hot tubs as per the new requirements of the Act
2018/19	Backscanning of resource consents	Scanning of consent files	Internal resource		90%			All scanning pre 2017 completed
2017/18	Backscanning of LIM Reports	2010-2015 LIM reports to be scanned	Internal resource	\$0.00	0%			To ensure data is captured to allow for destruction of physical files. All LIMS since that time are electronically filed.
2017/22	RMA Amendments 18 April 2017							SCP & Marginal COMPLETED but various other minor projects will come on line.
2016-19	CDEM Capability Improvements	Resulting from the Ministry's 5 year capability assessment a number of improvements were identified across the organisation.	Internal resource	N/A	15%			No further process on the action plan and implementation of a number of the improvements, however some of the improvements are being undertaken by various managers as part of their normal work and has not been captured against the Capability Improvements Plan.
2018/19	Waimate CDEM 10 yr Plan	To provide direction and identify local risks to inform CDEM decisions.			0%			This plan has not yet started and no resources have been allocated for this work
2017-20	CDEM Community Response Plans	Provides localised information for each CDEM sector area such as their CDEM community reps, preparedness, response procedures and communication.	\$250 each plan	\$645 (3 plans)	35%			The Cannington/ Maungati, the St Andrews/Southburn/Otaio, and the Makikihi/Hunter/Hook Community Response Plans have been completed and distributed to their households. Also working with Cattle Creek/Hakataramea, Studholme/Willowbridge/Morven, Glenavy/Ikawai.
2017-19	CDEM Local Plans: Welfare Plan, Fuel Plan, Tsunami Plan, Recovery Plan, AF8 Plan	To provide information for CDEM responders to the relative areas in the response and recovery phases.			10%			The Welfare Plan has not progressed in this quarter as a template is being developed by Group. Initial research commenced for AF8.

## Status Key:

On track with time/budget for completion within the plan year

High risk (budget and/or timeframe)

Some risk (budget and/or timeframe) - highlight issues in comments

Not started/external to Council

## 9 CORPORATE SERVICES GROUP REPORT

### 9.1 FINANCE REPORT - FOR THE 5 MONTHS ENDED 30 NOVEMBER 2018

**Author:** Melissa Thomson, Accountant  
**Authoriser:** Tina Stevenson, Corporate Services Group Manager  
**Attachments:** Nil

#### PURPOSE

- To present the Finance Report to the Environmental Services and Finance Committee.

#### Waimate District Council Statement of Financial Performance For the 5 months ended November 2018

\$'000	Variance Note	Actual	Year to date Budget	Variance	% Var.	Full Year Budget <i>Including Carry Forwards</i>
<b>Operating Revenue</b>						
Rates (net of remissions)		\$ 4,927	\$ 4,937	\$ (10)	(0%)	\$ 9,873
Development and Financial Contributions		26	26	-	4%	61
NZ Transport Agency Subsidy	2	848	926	(78)	(8%)	3,107
Fees and Charges		501	505	(4)	(1%)	1,015
Interest Revenue		34	46	(12)	(24%)	119
Other Revenue	3	2,697	2,597	100	4%	6,277
Total Operating Revenue		9,033	9,037	(4)	(1%)	20,452
<b>Operating Expenditure</b>						
Employment Benefit Expenses	4	1,654	1,755	101	6%	4,213
Depreciation and Amortisation	5	1,938	1,994	56	3%	4,786
Roading Expenses	6	1,107	1,066	(41)	(4%)	2,448
Finance Costs		43	71	28	39%	182
Other Expenses	7	3,707	4,138	431	10%	9,645
Total Operating Expenditure		8,449	9,024	575	6%	21,274
<b>Total Surplus/(Deficit)</b>		<b>\$ 584</b>	<b>\$ 13</b>	<b>\$ 571</b>	<b>4,647%</b>	<b>\$ (822)</b>

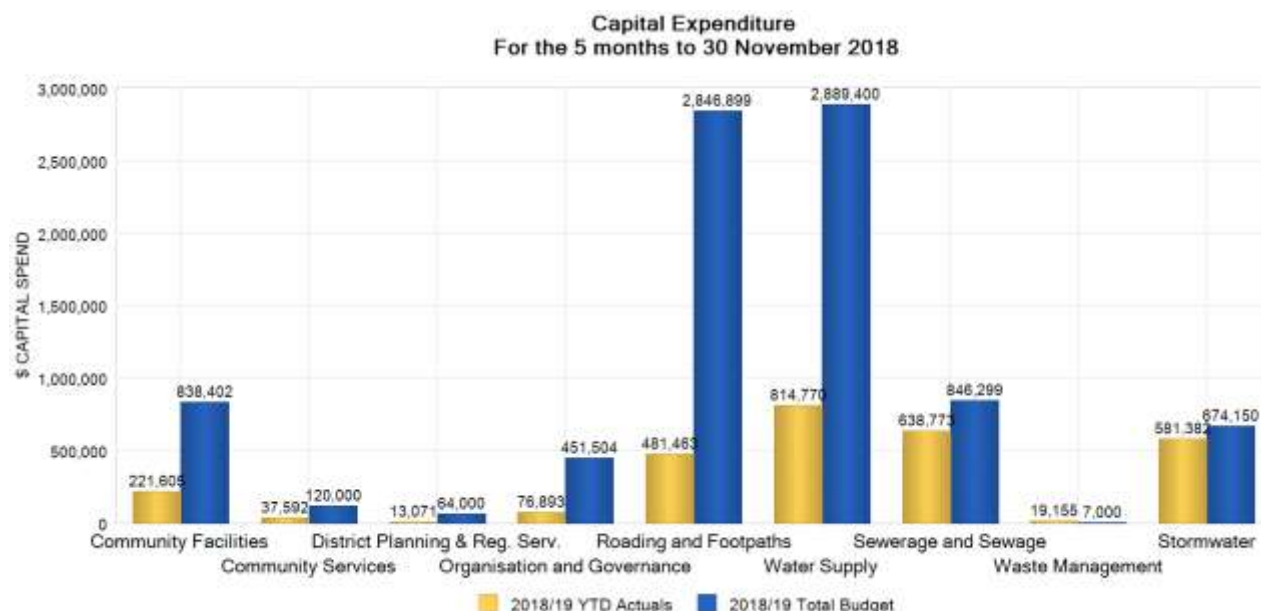
- For the 5 months ended 30 November 2018, Council recorded a surplus of \$584,000 compared to a budgeted surplus of \$13,000; therefore, Council is tracking \$571,000 favourable to budget.

#### MAJOR VARIANCES TO BUDGET

- NZ Transport Agency subsidy income is below budget, mainly due to the timing of sealed road resurfacing capital works (Actual: \$12,000; Budget: \$521,000).
- Other Revenue includes forestry sales of \$75,000 where no budget was allowed. The final Joint Venture was expected to be completed in June 2018; however, the final payment was received in July 2018.
- Employment Benefit Expenses are favourable to budget due to vacant positions and timing of replacements.
- Depreciation and Amortisation expenses are favourable to budget due to the timing of infrastructural capital works, ie Roding and Rural Water Schemes projects.
- Roding expenses have exceeded budget mainly due to emergency works (\$140,000) following large rain events.

8. Other Expenses are below budget predominately due to reduced consultancy and legal expenses (\$112,000 favourable to budget), timing of Economic Development expenditure (\$58,000 favourable to budget), grants expenditure (\$37,000 favourable to budget), Asset Management Plan costs (\$47,000 favourable to budget), Training and seminar costs (\$35,000 favourable to budget) and general expenses (\$84,000 favourable to budget).

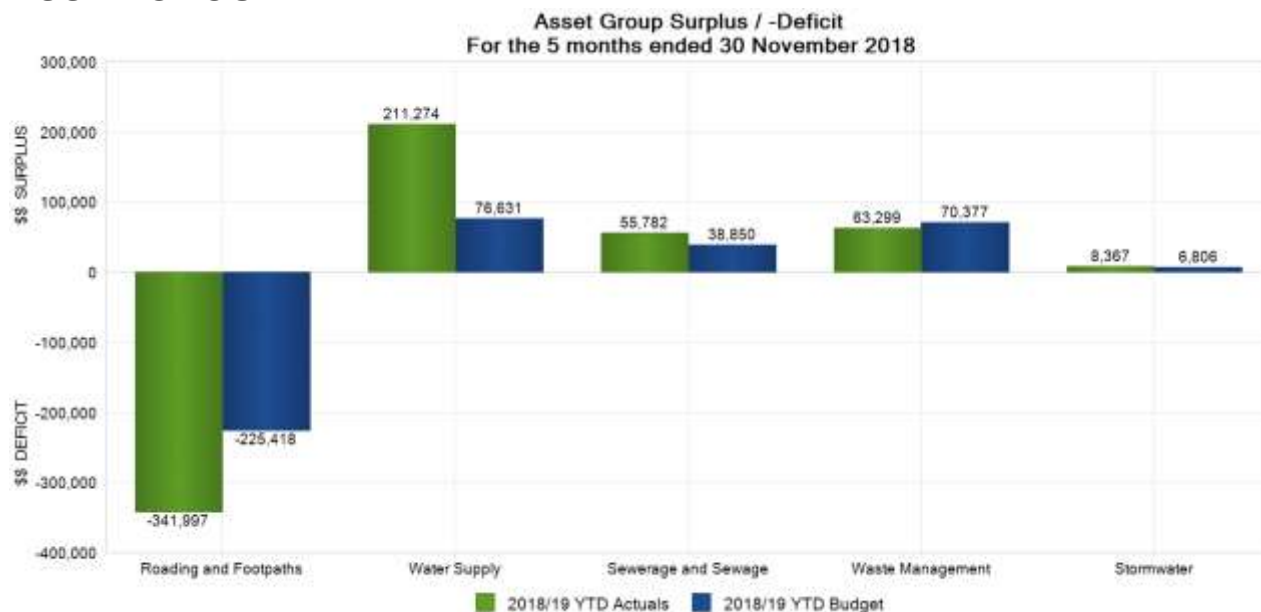
## CAPITAL EXPENDITURE BY GROUP



9. Note: Year to date Actuals (YTD - in yellow) includes capital work in progress at 30 June 2018. The Total Budget (in blue) includes carry forward budgets as reported at the Environmental Services and Finance Committee meeting held on 6 November 2018.
10. Totals: Spend to date (including WIP at 30 June 2018) \$2,884,704  
 2018/19 Total Budget (including Budget Carry Forwards) \$8,737,654  
 % of total budget spent 33%



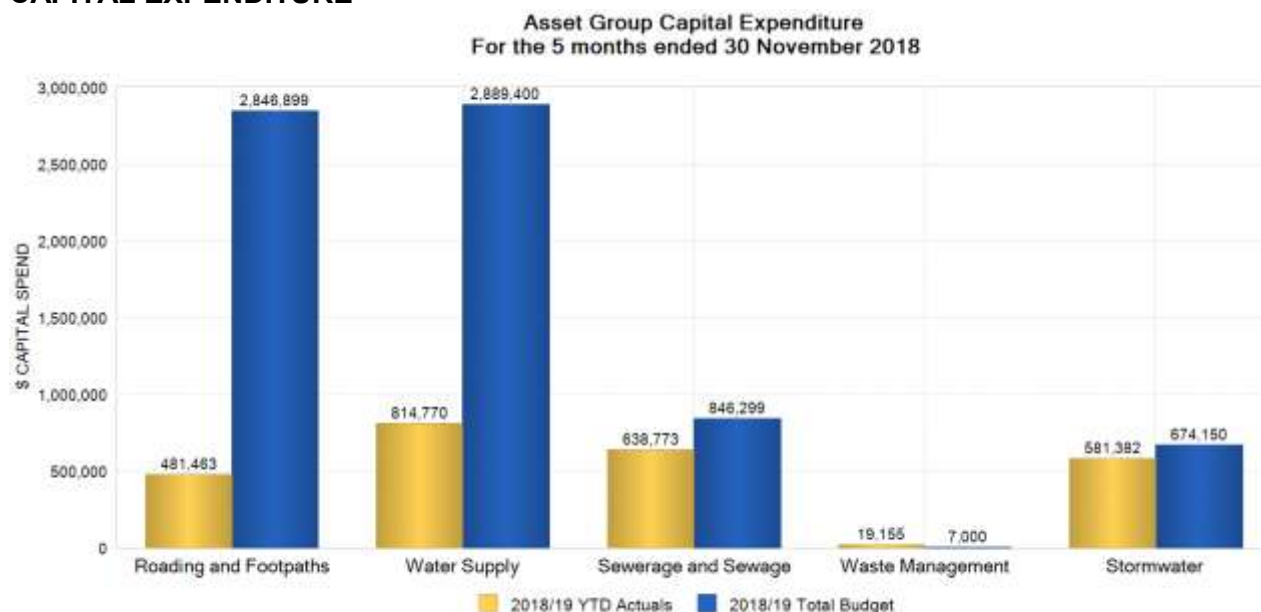
## ASSET GROUP



### VARIANCE ANALYSIS – DAN MITCHELL

11. Roading and Footpaths – The deficit of \$341,997 has exceeded the budgeted deficit of \$225,418 predominately due to reduced subsidy income (related to timing of expenditure), increased expenditure for emergency works following large rainfall events and depreciation expenses.
12. Water Supply – The surplus of \$211,274 has exceeded the budgeted surplus of \$76,631 due to reduced expenditure on Asset Management Plans, line maintenance and reduced depreciation costs.

### CAPITAL EXPENDITURE

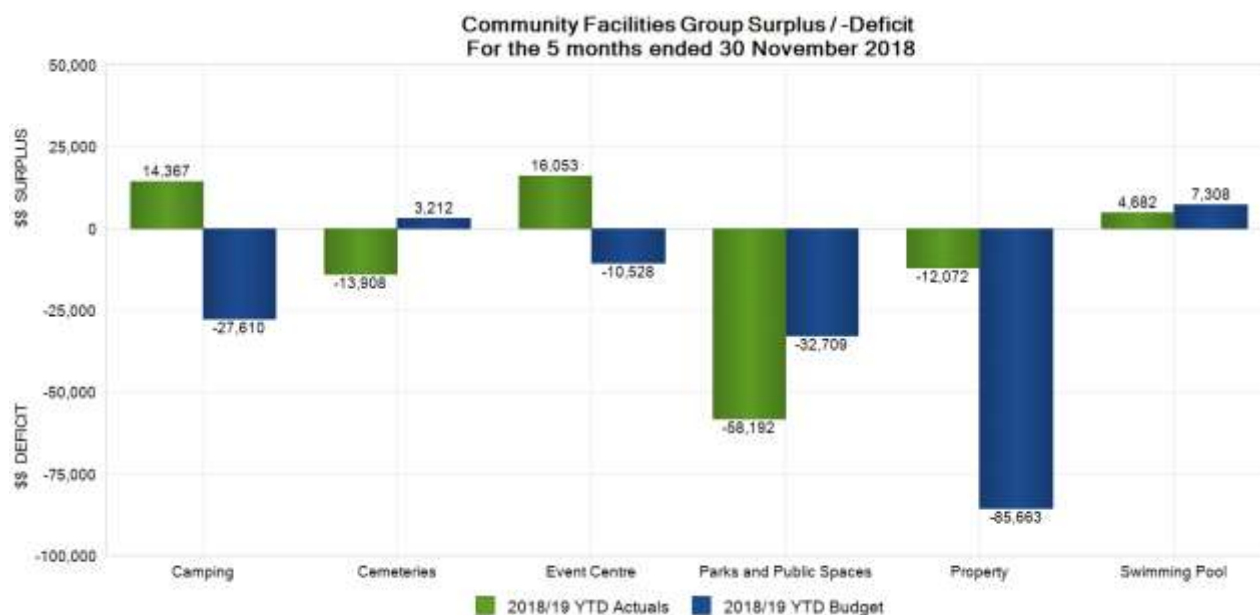


13. Roading and Footpaths – The capital works program is on target to be fully completed by year end.
14. Water Supply – The Urban Water capital works program is on target. The Rural Water capital programme will only be partially completed at year-end due to the Cannington Water Scheme upgrade of \$700,000 being deferred.



15. Sewerage and Sewage – The capital works program is on target.

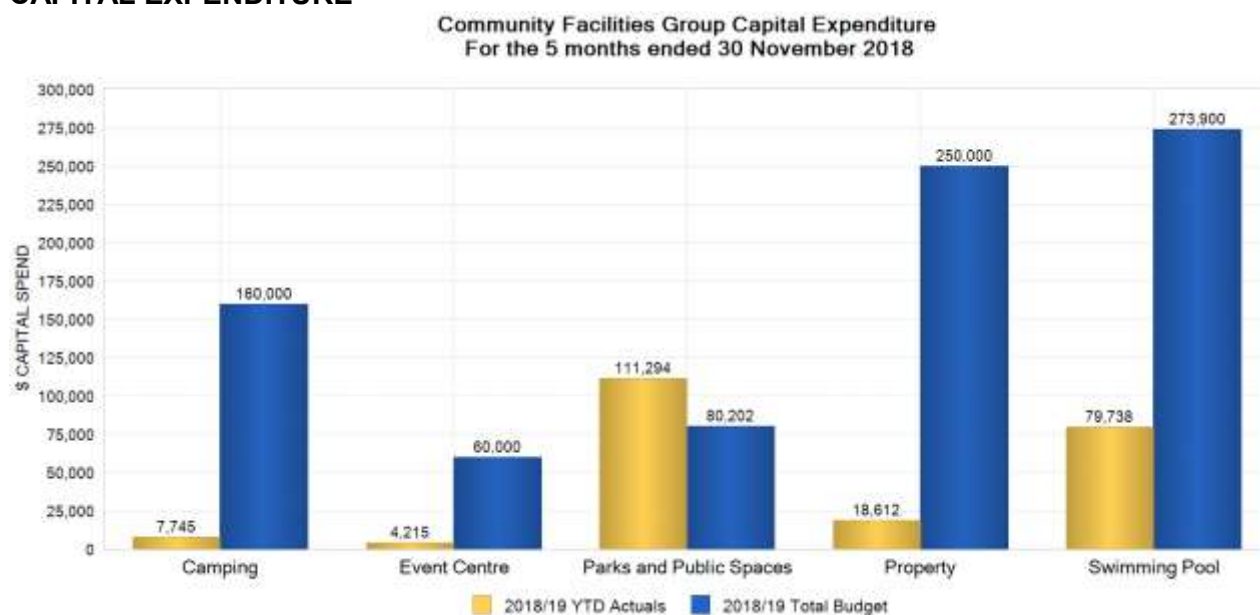
## COMMUNITY FACILITIES GROUP



### VARIANCE ANALYSIS – DAN MITCHELL

16. Camping – The surplus of \$14,367 has exceeded the budgeted deficit of \$27,610 due to increased camping income in addition to overall reduced expenditure.
17. Parks and Public Spaces – The deficit of \$58,192 has exceeded the budgeted deficit of \$32,709 mainly due to extensive maintenance works at the Morven Reserve lease block and Steward Park.
18. Property – The deficit of \$12,072 is below the budgeted deficit of \$85,663 due to lower than budgeted repairs, maintenance expenses, and internal time allocations.

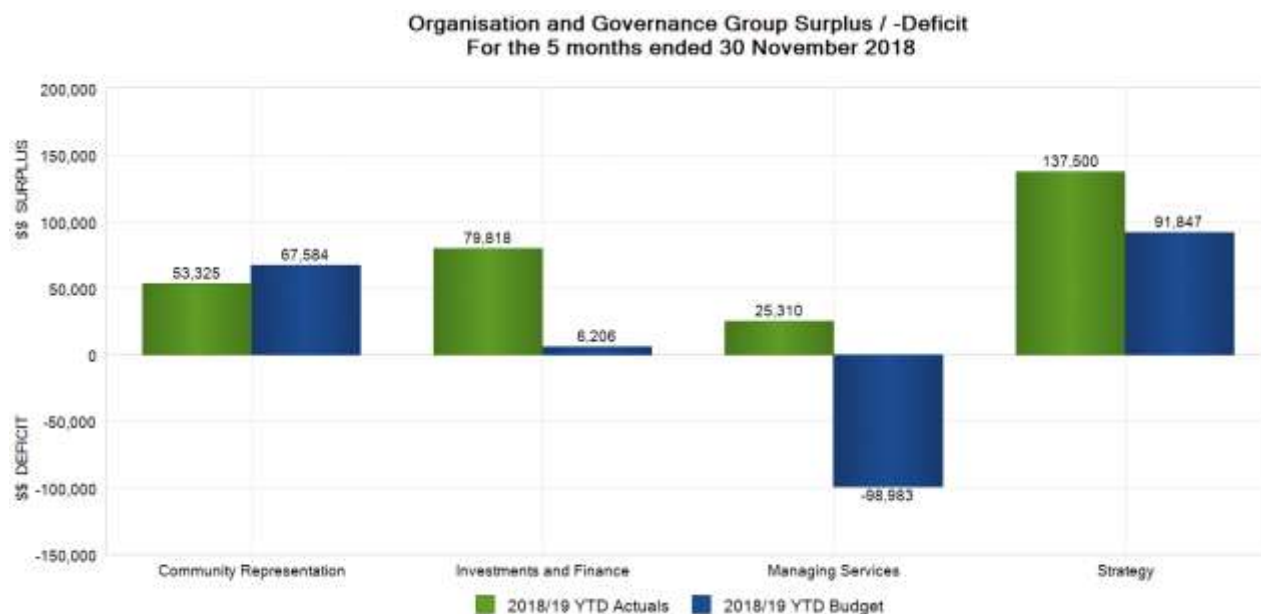
### CAPITAL EXPENDITURE



19. Camping – The capital works program is on target.

20. Property – The capital budget includes \$200,000 for Public Toilets; this project has been carried forward from the 2017/18 financial year.
21. Swimming Pool – The capital works program is on target.

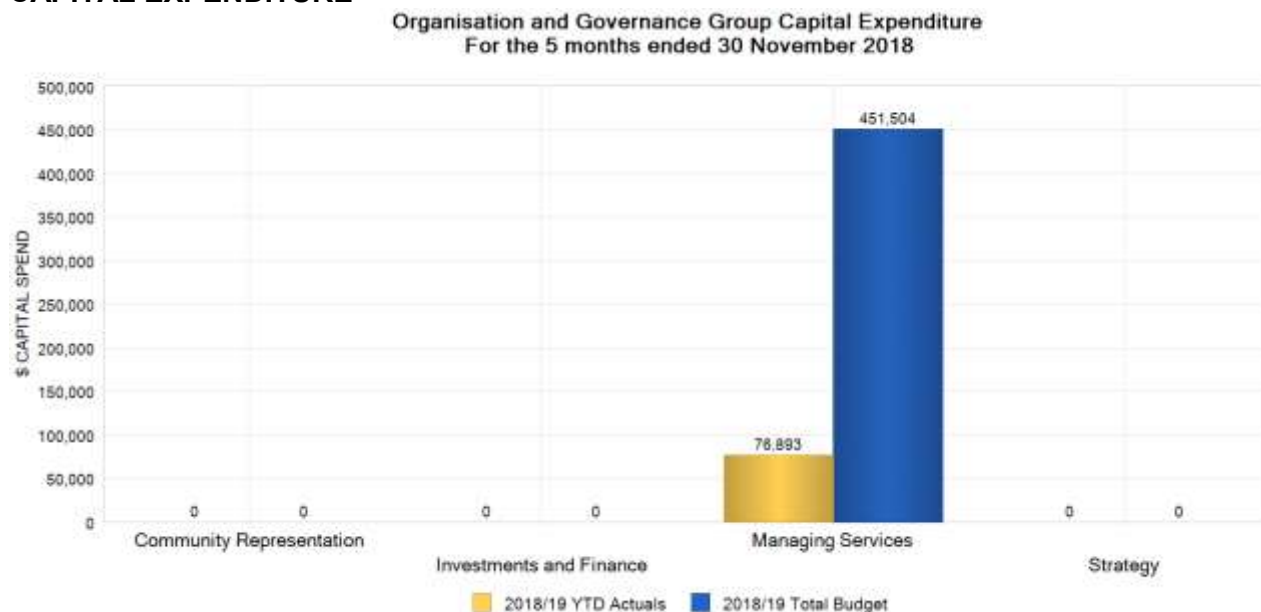
## **ORGANISATION AND GOVERNANCE GROUP**



### **VARIANCES ANALYSIS – TINA STEVENSON**

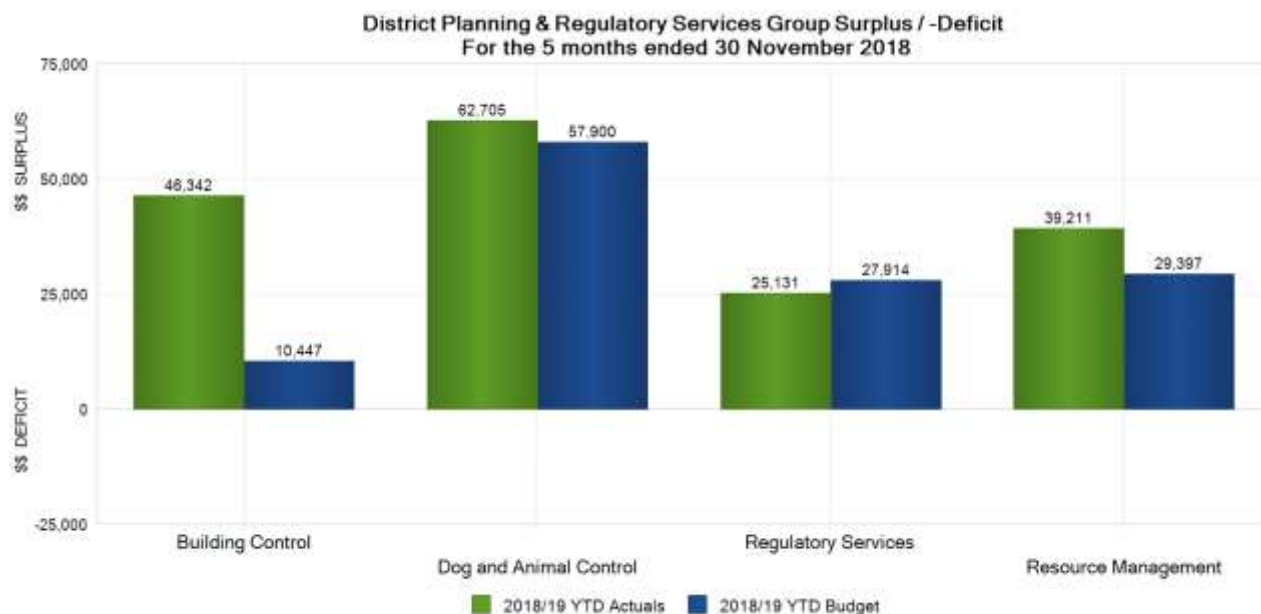
22. Investments and Finance – The surplus of \$79,818 has exceeded the budgeted surplus of \$6,206 due to forestry sales of \$75,000 where no budget was allowed.
23. Managing Services – The surplus of \$25,310 has exceeded the budgeted deficit of \$98,983 due to reduced Employment Benefit Expenses, training and seminars, consultancy and legal expenditure.
24. Strategy – The surplus of \$137,500 has exceeded the budgeted surplus of \$91,847 due to reduced consultancy and general expenditure.

## CAPITAL EXPENDITURE



25. Managing Services – The capital works program includes vehicle replacements of \$238,000, which are due to be purchased by the end of the financial year, subject to a review and assessment of the vehicle fleet and requirements.

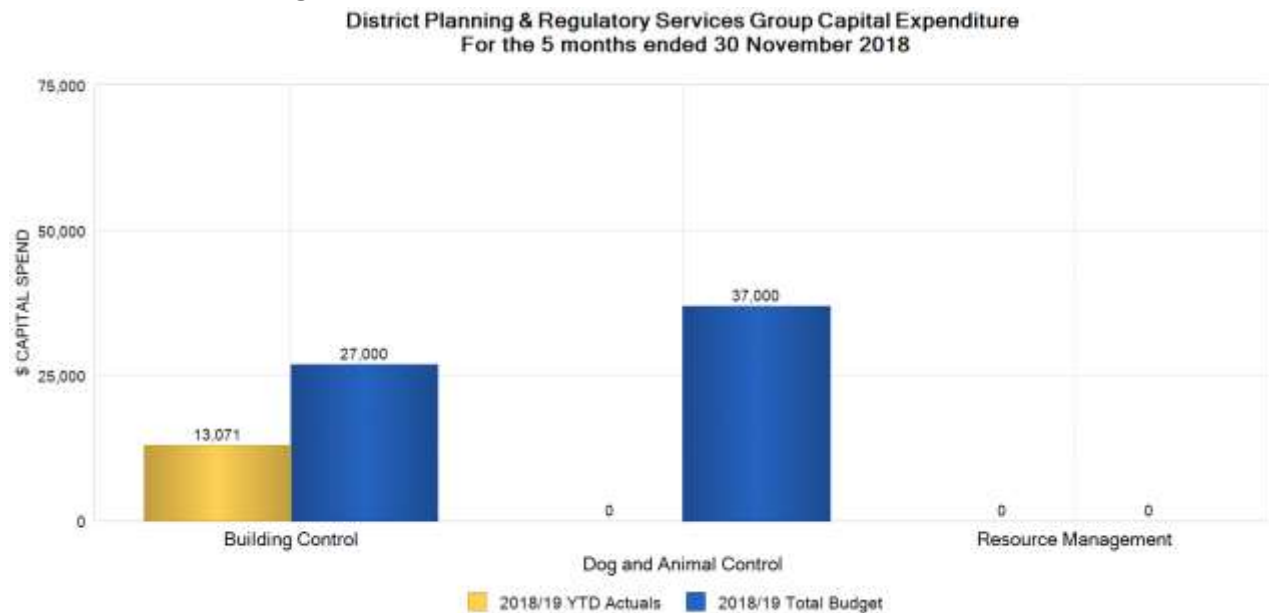
## DISTRICT PLANNING AND REGULATORY SERVICES GROUP



## VARIANCE ANALYSIS – PAUL COOPER

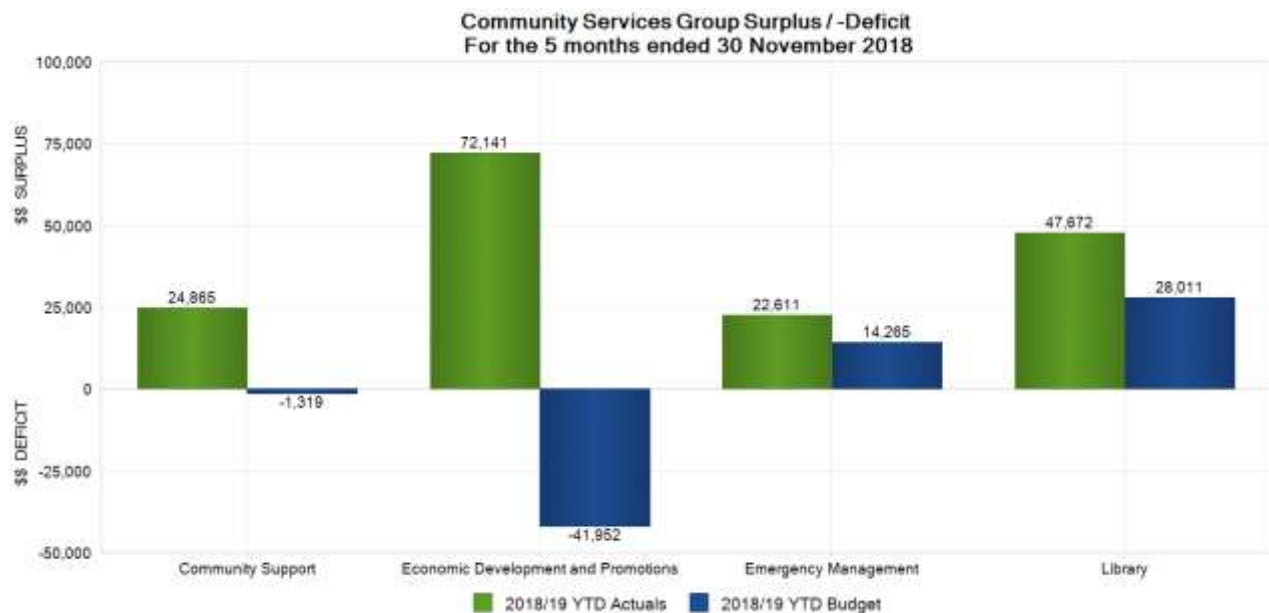
26. Building Control – The surplus of \$46,342 has exceeded the budgeted surplus of \$10,447 due to increased building consent income in addition to reduced consultancy expenditure.

## CAPITAL EXPENDITURE



27. Dog and Animal Control – The capital budget allows for a vehicle replacement, which is due to be purchased by the end of the financial year, subject to a review and assessment of the vehicle fleet and requirements.

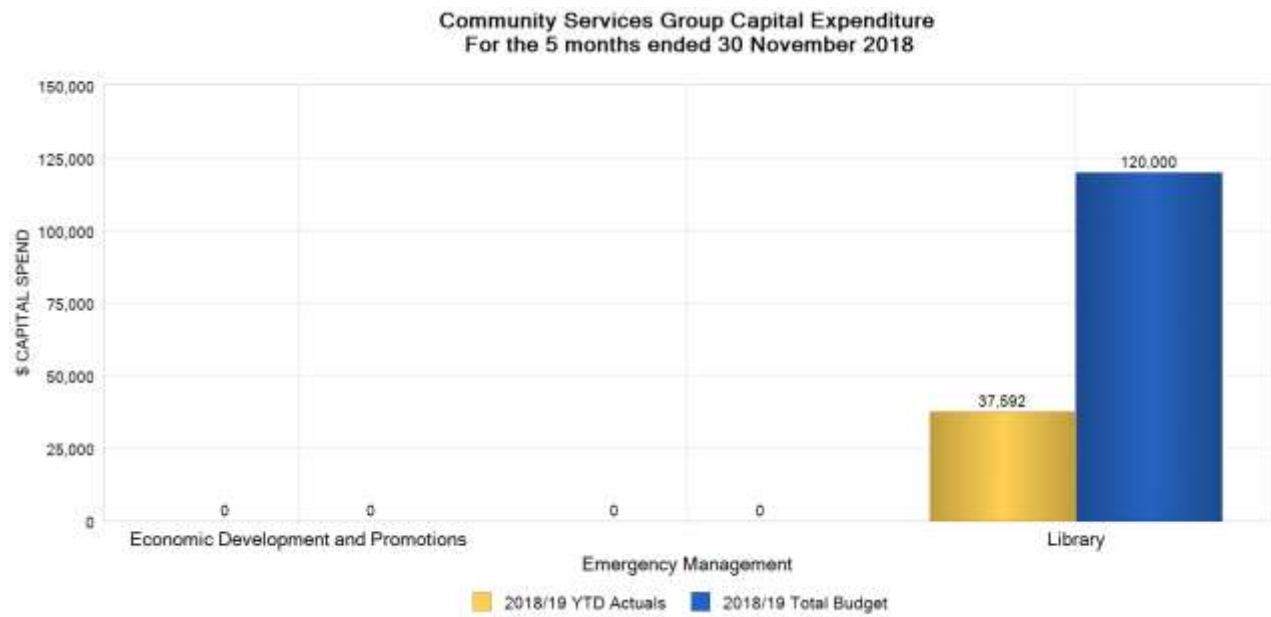
## COMMUNITY SERVICES GROUP



## VARIANCE ANALYSIS – CAROLYN JOHNS AND MICHELLE JONES

28. Economic Development and Promotions – The surplus of \$72,141 has exceeded the budgeted deficit of \$41,952 mainly due to timing of expenditure; it is anticipated that this will be fully spent by year-end.

## CAPITAL EXPENDITURE



29. Library – The Library Books capital purchases are on target. The Self Service and Item Security software project budgeted at \$60,000 is to be procured prior to year-end.

## 9.2 CORPORATE SERVICES GROUP REPORT

**Author:** Tina Stevenson, Corporate Services Manager

**Authoriser:** Tina Stevenson, Corporate Services Manager

**Attachments:** 1. LGOIMA Requests Summary July 2018 to December 2018 [↓](#)  
2. Corporate Services Group Project Update [↓](#)

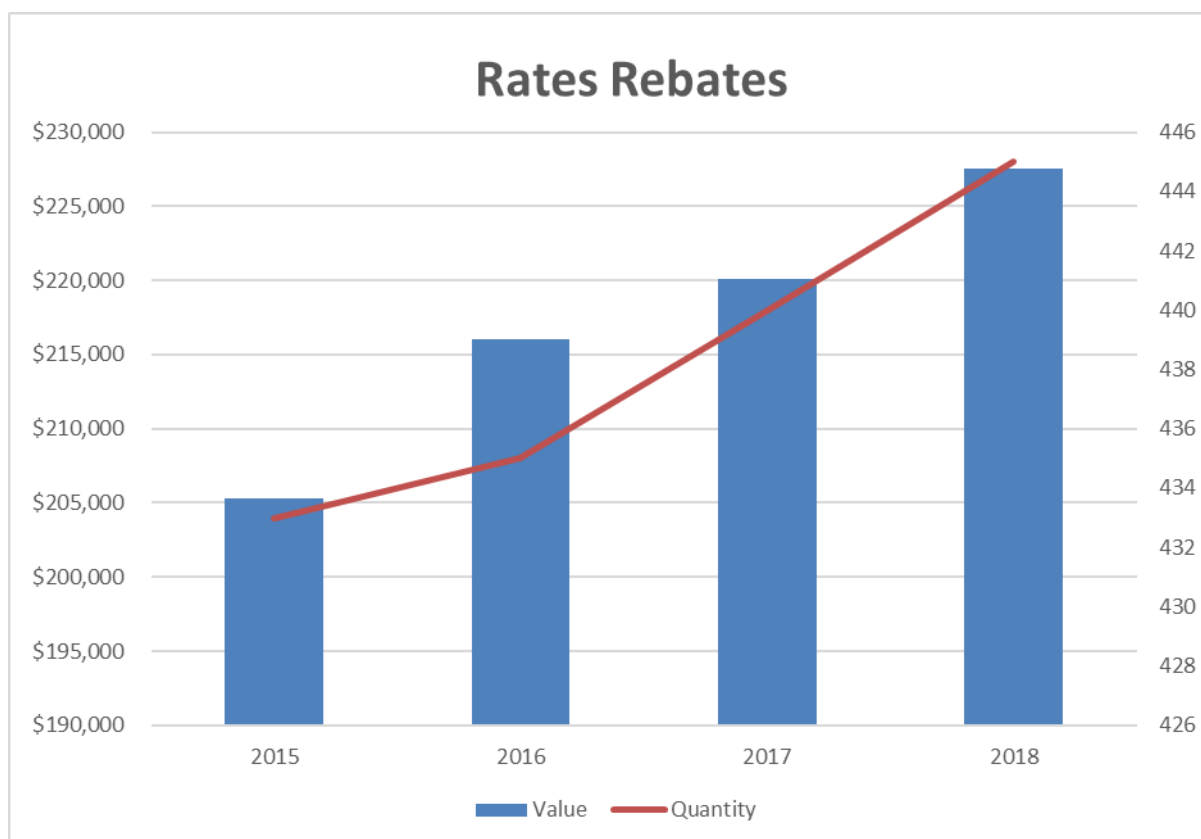
### PURPOSE

1. To present the Management Report – Corporate Services Group to the Environmental Services and Finance Committee.

### CORPORATE & SUPPORT SERVICES

#### Rates

2. The second instalment of rates for the 2018/19 financial year included a 'Helping You Save Money' insert reminding ratepayers about the availability of Rates Rebates and rates payments options, as requested by Councillors. This was also communicated through social media and will continue to circulate.
3. The third instalment of rates has now been applied and is due for payment on 22 February 2019.
4. So far this year Council has received rates rebate applications from 369 ratepayers, with \$197,872 allocated to reduce their respective rates balance. The following graph illustrates the value and quantity of Rates Rebates received by Waimate District Council ratepayers for the 2015 to 2018 years:



### General

5. The reopening of the main Council office following the Christmas break has been busy with the usual catch up, especially relating to those activities that continue to function throughout the holiday period. The introduction of the availability of Eftpos as a means of payment at Council camping facilities and the swimming pool is proving popular with the flow on effect being less cash or cheques to deal with.

### Information Technology

6. The Cyber Security Project is progressing, with a focus on the subject areas assessed by Deloitte following their review. The project detail has been reported through Council's Audit and Risk Committee.

### LGOIMA Requests

7. Local Government Official Information and Meetings Act (LGOIMA) requests and their administration are a continual obligation. As an attachment to this report, we have provided a summary of the requests received for the period from July to December 2018 for the information of Councillors. We note that of the 43 requests received; only two were from Waimate ratepayers.

### Annual Plan 2019/20

8. Following the workshop scheduled for 22 January 2019 and consideration of the updated financial budgets, it is anticipated the budgeting phase of the process will be largely complete, so that we can progress onto the balance of the Annual Plan preparation.

## GOVERNANCE

### Waimate District Civic Awards

9. At the time of writing this report, nominations are being accepted for the 2019 annual Waimate District Civic Awards. This programme is now in its 9th year, and recognises up to four individuals, a young person and a group/organisation for their voluntary work around the district. Nominations close on 25 January 2019, with the ceremony to be held at the Waimate Event Centre in early March.

## REQUEST FOR ACTION

Meeting	Date	Officer	Title	Target
Environmental Services and Finance Committee 01-May-18	1-05-2018	Stevenson, Tina	Operational Request: That staff provide a comprehensive report on Council's Forestry Portfolio, followed by a Council Workshop/Retreat encompassing all investment portfolios	29-Jan-19
<b>Notes</b>  <i>A forestry investment discussion has been re-scheduled for this meeting, 29 January 2019.</i>				

## RECOMMENDATION

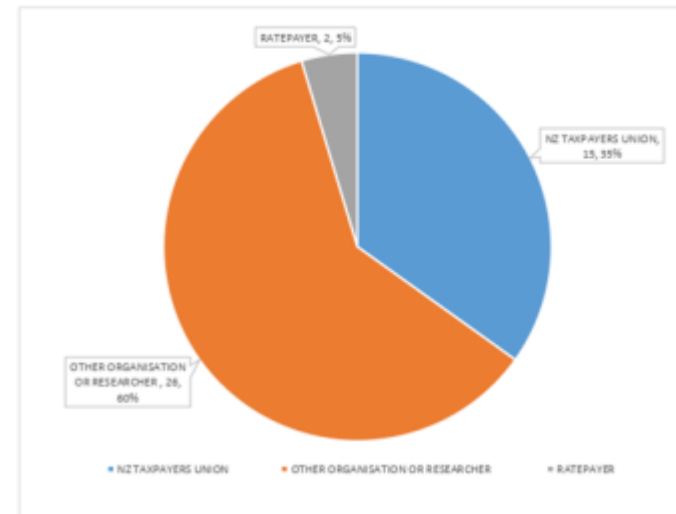
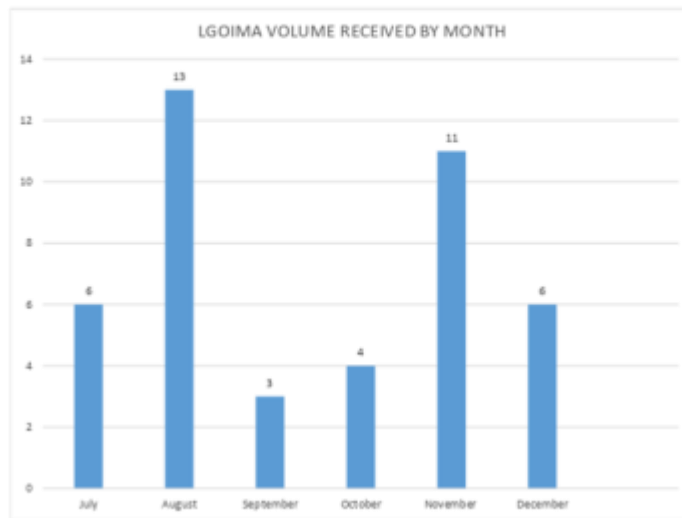
That the Management Report – Corporate Services Group is accepted.



## Summary of LGOIMA requests 1 July 2018 to 31 December 2018

LGOIMA number	Date received	Requester name	Organisation	Request summary	Status	Date sent	Days to action
319	3.7.18	Scott Palmer	Newshub	Food premises grading system used by Council	Completed	12.07.18	7 days
320	3.7.18	Craig Yakas	Property Assessment services	No. of properties owned by Council for Community housing - contracted or self managed?	Completed	18.7.18	11 days
321	4.7.18	Angus Reiman	Priority One	Average residential rates for 2018/19 & what is included	Completed	27.7.18	17 days
322	8.7.18	R Leveson		No. of library employees, No. being paid <\$20.55p/h, No. employed >40hrs per week	Completed	27.7.18	14 days
323	12.7.18	Al Williams	Stuff	New website provider, minutes of mtg where decision made, unsuccessful bidders detail	Completed	8.8.18	19 days
324	2.8.18	Alice Hartley	Allen & Clarke	Earthquake prone & dangerous building policy - website	Completed	3.8.18	1 day
325	3.8.18	Ngahiwai Meroiti	Hon Nanaia Mahuta	List of Abandoned Maori Land	Completed	8.8.18	3 days
326	23.7.18	Davina Mossman	AUT student	Alcohol advertising policies	Completed	10.8.18	14 days
327	14.8.18	Yu Heng Chong	Selwyn District Council	Road Development Bonds	Completed	21.8.18	6 days
328	17.8.18	Tabitha Lorch	Taxpayers Union Incorporated	Total cost of domestic flights and international trips 2018/18 financial year	Completed	4.9.18	13 days
329	18.8.18	Ruan Malan	Massey University	Seismic Strengthening Earthquake Buildings	Completed	3.10.18	12 days
330	20.8.18	Garrick Wright-McNaughton	Taxpayers Union Incorporated	Auditor appointed, borrowing costs & qualifying assets 2016/17 & 2017/18 financial years	Completed	22.8.18	2 days
331	20.8.18	Doreen Noakes	Thomson Reuters	List of newspaper used for Public Notices	Completed	3.9.18	12 days
332	21.08.18	Garrick Wright-McNaughton	Taxpayers Union Incorporated	Number of staff employed, time spent, contractors paid for applications to Provincial Growth Fund	Completed	06.09.18	13 days
333	21.08.18	Andrew Chumko	Stuff NZ	Use of Council Prayer at meetings	Completed	22.08.18	1 day
334	27.08.18	Shani Bennik	Taxpayers Union Incorporated	Existence, cost, allowances provided, driver details for Mayoral vehicle	Completed	03.09.18	6 days
335	29.08.18	Eva Wyles	MSD	Youth Awards available in the Waimate district	Completed	29.08.18	1 day
336	30.08.18	Rejean Ferrer	BOI NZ Ltd	Status of Library and Council Building Development, including project value/builder/designer	Completed	04.09.18	5 days
337	31.08.18	Rhiana McAnalleay	Batchelor of Construction - Massey U	Seismic Strengthening and heritage building conservation	Completed	26.09.18	17 days
338	09.09.18	Nicole	Auckland University	NZ Drinking Water Policy Research- sources, locations, test frequency, cost of water	Completed	05.10.18	11 days
339	27.09.18	Susan Blayney (339)	NZ Green Building Council	Electricity usage of Local Government Building 2017/18	Completed	16.10.18	13 days
340	28.09.18	Shani Bennik	Taxpayers Union Incorporated	Legal costs in matters relating to defamation for 3 years to 20 June 2018	Completed	01.10.18	1 day
341	08.10.18	Andrew Hare (341)	Stratford District Council	Asset management, web mapping, GIS version & Geospatial database used by council	Completed	16.10.18	12 days
342	16.10.18	Laura Bamsley (342)	Private	Code of Conduct for elected members	Completed	17.10.18	1 day
343	24.10.18	Shani (343) - WITHDRAWN	Taxpayers Union Incorporated	International Flights - refer to request of 17 August 2018	Withdrawn	24.10.18	1 day
344	19.10.18	Paul Carver (344)	Private	St Andrews Campground details of payments made by requestor	Completed	31.10.18	10 days
345	14.11.18	Katie Scotcher	Radio NZ News	Bullying or Sexual harassment in the workplace complaints and outcomes in past 10 years	Completed	16.11.18	2 days
346	19.11.18	Shani Bennik	Taxpayers Union Incorporated	Payments to Residence and Ratepayers Assns 2017/18 year	Completed	23.11.18	3 days
347	19.11.18	Shani Bennik	Taxpayers Union Incorporated	Payments to Chamber of commerce, Property Council, industry groups or other lobby groups 17/18	Completed	30.11.18	9 days
348	20.11.18	Garrick Wright-McNaughton	Taxpayers Union Incorporated	Cost of Koru Club membership 2018/18 financial year	Completed	23.11.18	2 days
349	21.11.18	Shani Bennik	Taxpayers Union Incorporated	Cost of hold music, name of provider and playlist of songs used for hold music	Completed	28.11.18	6 days
350	23.11.18	Tabitha Lorch	Taxpayers Union Incorporated	Total amount of Koba, name of recipients, other donations and recipients for 2018/18	Completed	30.11.18	5 days
351	23.11.18	Shani Bennik	Taxpayers Union Incorporated	Cost A4 paper 2017/18 financial year	Completed	28.11.18	3 days
352	23.11.18	Shani Bennik	Taxpayers Union Incorporated	Cost of Electricity for main council building 2017/18 financial year	Completed	30.11.18	5 days
353	23.11.18	Shani Bennik	Taxpayers Union Incorporated	No of vehicles, mean and median purchase price of Council Fleet 2017/18 financial year	Completed	30.11.18	6 days
354	23.11.18	Shani Bennik	Taxpayers Union Incorporated	List of positions where salaries is higher than \$200,000, exact salary & gender split	Completed	28.11.18	3 days
355	30.11.18	Lindsey Taranto	Altec Australia Holdings Ltd	Whether vegetation Mgmt/Road Signs/Streetlights are outsourced - who contractor is	Completed	05.12.18	3 days
356	06.12.18	Valerie Gribble	Albie Aubrey (Life Member SOUGM)	Types of rates charged on Retirement Villages	Completed	21.12.18	13 days
357	12.12.18	Peta Berry	Private	Chicken Egg and Meat Farm Resource Consents issued	Completed	11.1.19	9 days
358	13.12.18	Andrew Lawler	Executive Support / Researcher	No. of swimming pools registered in district and fee charged for 3 yearly inspection	Completed	10.01.19	8 days
359	17.12.18	Kirsty Hoare	SEANZ	Consents required for Solar Photovoltaic Installations	Completed	21.12.18	5 days
360	19.12.18	Michael Lee	Custompak	Volume of Plastics recycling material received at RRP on a weekly basis	Completed	11.01.19	2 days
361	20.12.18	Janelle Blicliffe	Private	Knottingley Park costs 18/18 and current/minutes or documents relating to Reserve management plan in Progress			

## Summary of LGOIMA requests 1 July 2018 to 31 December 2018



Financial Year(s)	Project	Project Description	Budget	Spend to Date	% Complete	Status		Comments / Issues / Risks / Reasons
						Time	Budget	
Corporate Services								
2017/18 (rolled over)	EDRMS - Phase 1	Embed Sharepoint as the main document management tool for Council	\$80,000	\$75,785	100%			The EDRMS project has been divided into 2 phases, with phase 1, being the purchase and installation of Sharepoint. Phase 1 was completed in 2017, within budget.
2018/19	EDRMS - Phase 2	Embed Sharepoint as the main document management tool for Council	Internal Resourcing	\$0	5%			Phase 2 of EDRMS project is to review the application of Sharepoint to each Council Group and Activity and roll out Council-wide. Additionally, this project will involve reorganisation of historic electronic documents. This Project requires a fresh assessment and the estimated completed date will be determined accordingly.
2017/18	Magiq v4 Upgrade	Update Magiq system from v3 to v4; improved functionality and module options.	\$13,000	\$16,631	100%			Installation and training completed. Budgeted costs exceeded by \$3,631 due to various related support costs incurred. This project was completed in June 2018.
2017/18	PABX upgrade	Update telephone system server hardware	\$15,000	\$0	0%			Upgrade transferred to 2019/20 as per LTP.
2018/19	Magiq Upgrades	Provision for Upgrades to Magiq Software	\$10,000	\$0	0%			Budget provided for Magiq Software Upgrades. No upgrades have been identified as being required at the present time. This will be monitored.
2018/19 - 2019/20	Cyber Security	To improve Councils protection from Cyber Threats to recommended maturity levels	\$10,000	\$0	5%			As part of a South Island shared service programme, cyber security was identified as an area of risk and selected for review by those Councils who chose to participate. The review was undertaken by Deloitte and the resulting assessment was reported through Council's Audit and Risk Committee. The Cyber Security Plan was approved by the Audit and Risk Committee at the December 2018 meeting. A budget has been provided for in the 2019/20 year for assistance with policy, plans and protocols documentation, required to achieve the recommended maturity levels.
2018/19	Delegations Review	Review of Council Delegations	Internal Resourcing	\$0	0%			The Delegations Policy was due for Review by June 2018, so is therefore overdue. A revised renewal date of March 2019 has been indicated. The review of Delegations requires extensive work which impacts all departments of Council. The Review will be discussed with Council through a Council Workshop forum before presentation of an updated Delegations Policy for approval by Council.
2018/19 - 2019/20	Council Meeting Structure Review	Review of Council Meeting structure and frequency.	Internal Resourcing	\$0	0%			A review of Council's meetings structure to be undertaken with the current Council, including considerations of delegations.
2018/19 - 2019/20	District Tours	To arrange for tours of the District for Councillors and relevant staff.	\$1,000	\$0	0%			Historically Council has considered operating tours on an 'on demand' basis, generally following elections. The nature of the tours may be dependent on the quantity of any new Councillors elected, in conjunction with new staff, or a particular area of interest. The timing of this project will be ascertained with consideration to these factors. The budget allowed forms part of the Governance Training budget.
2018/19	Pre-Election Report	To prepare a Pre-Election Report as required under statute.	Internal Resourcing	\$0	0%			A Pre-Election report must be prepared as per the requirements of the Local Government Act 2002. The report is required to be published no later than the day that is 2 weeks before the nomination day for a triennial general election of members of a local authority under the Local Electoral Act 2001. The report is due by 5 July 2019. The report will be included in Councillor candidate nomination packs.

**Status Key:**

On track with time/budget for completion within the plan year

High risk (budget and/or timeframe)

Some risk (budget and/or timeframe) - highlight issues in comments

Not started/external to Council

## 10 GENERAL REPORTS

### 10.1 AUDIT NEW ZEALAND MANAGEMENT REPORT FOR THE YEAR ENDED 30 JUNE 2018

**Author:** Tina Stevenson, Corporate Services Manager

**Authoriser:** Tina Stevenson, Corporate Services Manager

**Attachments:** 1. **Audit New Zealand Management Report for the year ended 30 June 2018** [↓](#)

#### PURPOSE

1. To provide the Environmental Services and Finance Committee with the Audit New Zealand Report on the audit of Waimate District Council for the year ended 30 June 2018.

#### BACKGROUND

2. Council's Annual Report for the year ended 30 June 2018 was adopted on 6 November 2018.
3. Audit New Zealand issued an unmodified audit opinion dated 6 November 2018.
4. Audit New Zealand issued the final Management Report on the audit of Waimate District Council for the year ended 30 June 2018, dated 12 December 2018.
5. The monitoring of recommendations for improvement comes under the authority of the Audit & Risk Committee. As the Audit & Risk Committee meetings are quarterly with the next scheduled for 11 March 2019, the Audit Management Report is being shared through this forum to ensure timeliness of delivery.

#### PROPOSAL

6. That the Environmental Services and Finance Committee refers the Audit New Zealand Management Report to the Audit & Risk Committee to provide related feedback as appropriate.

#### ASSESSMENT OF SIGNIFICANCE

7. This matter is not deemed significant under the Council's Significance and Engagement Policy.

#### FINANCIAL

8. There are no known budget considerations.

#### RECOMMENDATION

1. That the 'Audit New Zealand Management Report for the year ended 30 June 2018' report is accepted; and
2. That the Environmental Services and Finance Committee refers the Audit New Zealand Management Report to the next Audit & Risk Committee meeting.



AUDIT NEW ZEALAND  
Mana Arotake Aotearoa

# Report to the Council on the audit of

Waimate District Council

For the year ended 30 June 2018

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## Key messages

We have completed the audit for the year ended 30 June 2018. This report sets out our findings from the audit and draws attention to areas where the District Council is doing well and where we have made recommendations for improvement.

### Audit opinion

We have issued an unmodified audit opinion dated 6 November 2018.

### Matters identified during the audit

This report summarises the outcome of audit risks identified in the Audit Plan and issues identified during the audit.

One of the key issues identified during the audit was around the Alpine Energy Limited (AEL) shares valuation. We identified that the prior year share valuation was overstated as new information became available in the current year. Some of the key considerations include:

- A better approach with the inclusion of price reset decisions which more accurately reflect AEL's regulatory environment.
- Extended forecasts for capex and revenue.
- Valuation of the different components of AEL separately and not as one business.
- Compliance with the fair value measurement accounting standard whereas the previous valuation was an indicative valuation.

Based on the above, we believe that the mid-point valuation from the external valuer of \$194 million is an acceptable value to use as no organisation has a controlling share. Council subsequently correctly recognised the decrease in value of its shareholding in other comprehensive revenue and expense, and not as a charge against the surplus, as it had sufficient accumulated reserves.

For further detail on this matter, you can refer to section 5.1 of this report.

Furthermore, a summary of progress regarding our previous recommendations is included in Appendix 1.

### Thank you

We would like to thank the Council, management and staff for their assistance during the course of our audit.



Dereck Ollsson  
Appointed Auditor  
12 December 2018



## 1 Recommendations



Our recommendations for improvement and their priority are based on our assessment of how far short current practice is from a standard that is appropriate for the size, nature, and complexity of your business. We have developed the following priority ratings for our recommended improvements.

Explanation	Priority
<b>Needs to be addressed <i>urgently</i></b> These recommendations relate to a significant deficiency that exposes the District Council to significant risk or for any other reason need to be addressed without delay.	Urgent
<b>Address at the earliest reasonable opportunity, <i>generally within six months</i></b> These recommendations relate to deficiencies that need to be addressed to meet expected standards of best practice. These include any control weakness that could undermine the system of internal control.	Necessary
<b>Address, <i>generally within six to 12 months</i></b> These recommendations relate to areas where the District Council is falling short of best practice. In our view it is beneficial for management to address these, provided the benefits outweigh the costs.	Beneficial

### 1.1 New recommendations

The following table summarises our recommendations and their priorities.

Recommendation	Reference	Priority
Alpine Energy shares valuation: <ul style="list-style-type: none"><li>• Ensure that Council engages an external expert to prepare a valuation of its shareholding in future years.</li><li>• Ensure that the valuation is reviewed, either internally or externally, so that the Council has sufficient assurance that it is appropriate to use in the annual report.</li></ul>	5.1	Necessary

**1.2 Status of previous recommendations**

Set out below is a summary of the action taken against previous years' recommendations. Appendix 1 sets out the status of previous year's recommendations in detail.

This should be read in conjunction with the findings from our interim report to Council. Where recommendations were included and there has been no change per our interim report, they have not been repeated in Appendix 1.

Priority	Priority			
	Urgent	Necessary	Beneficial	Total
Open		1	1	2
Implemented or closed	1	1	2	4
<b>Total</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>6</b>

## 2 Our audit report

### 2.1 We issued an unmodified audit report



We issued an unmodified audit report on 6 November 2018. This means we were satisfied that the financial statements and statement of service performance present fairly the District Council's activity for the year and its financial position at the end of the year.

In forming our audit opinion, we considered the following matters. Refer to sections 3, 4 and 5 for further detail on these matters.

### 2.2 Uncorrected disclosure deficiencies

The financial statements are free from material misstatements, including omissions. During the audit, we have discussed with management any misstatements that we found, other than those which were clearly trivial.

There were no significant misstatements identified during the audit that have not been corrected.

### 2.3 Corrected misstatements

During the audit, we identified a small number of financial and disclosure misstatements which were subsequently corrected.

### 2.4 Quality and timeliness of information provided for audit



Management is required to provide information for audit relating to the annual report of the District Council. This includes the draft annual report with supporting working papers. We provided a listing of information we required to management on 10 July 2018. The Audit plan dated 4 April 2018 included the dates we required the information to be provided to us.

The information provided to audit was on time, and of a high quality. Draft financial statements were completed to a high standard at the commencement of the audit and were supported with appropriate working papers. Further to this, all audit queries were also addressed in a timely manner.

### 3 Matters raised in the Audit Plan



In our Audit Plan dated 4 April 2018, we identified the following matters as the main audit risks and issues:

Audit risk/issue	Outcome
<b>Fair value assessment and revaluation of assets</b>	
<p><b>Revaluation</b></p> <p>The District Council periodically re-values its land, buildings and various infrastructure asset classes. <i>PBE IPSAS 17</i> Property, Plant and equipment requires that valuations are carried out with sufficient regularity to ensure that the carrying amount does not differ materially from fair value.</p> <p>Land and Building assets are due to be revalued at 30 June 2018. Roading, sanitation and three waters assets were revalued in the prior year, and are next due to be revalued at 30 June 2020.</p> <p>Where a class of assets is not subject to a revaluation in the current year, an assessment is required to confirm that the carrying value is not materially different from its fair value. It is important that the District Council makes this assessment at an early stage, to avoid the risk of this becoming a significant issue later during the audit.</p> <p><b>Impairment</b></p> <p><i>PBE IPSAS 21</i> Impairment of Non-Cash-Generating Assets and <i>PBE IPSAS 26</i> Impairment of Cash-Generating Assets respectively require that an entity assess, at the end of each reporting period, whether there is any indication that an asset (including intangible assets) may be impaired. If any such indication exists, the entity shall estimate the recoverable amount of the asset. The standard also provides guidance on some indicators that an asset may be impaired.</p>	<p>The valuation was prepared by an independent valuer, QV. The valuation movement to the carrying value of land and buildings was an overall increase of \$1,284,000.</p> <p>In reviewing the District Council's valuation of land and building assets, we have:</p> <ul style="list-style-type: none"> <li>assessed the processes and procedures supporting the integrity of the underlying data and schedules;</li> <li>agreed the balances to underlying records and valuation reports;</li> <li>assessed the appropriateness of the valuation arrived at for compliance with the accounting standards; and</li> <li>confirmed that for the building assets, the depreciation rates applied are consistent with policy estimates of useful lives - and that these were assessed as reasonable.</li> </ul> <p>We held discussions with management to gain an understanding of the District Council's assessment of whether there were any impairment indicators and were satisfied that none existed.</p>

Audit risk/issue	Outcome
<b>Development of internal policies and procedures</b>	
<p>Recently the District Council has had an increased focus on the development and review of internal policies and procedures.</p> <p>In particular, we understand the procurement and risk management areas have undergone a review.</p> <p>It is important that the District Council has a comprehensive set of policies that are known and implemented organisation-wide. It is also important that these reflect best-practice policies.</p>	<p>This was followed up at our interim audit in April. We have included comments on this within section 3.1 of our interim management report.</p>
<b>Control environment</b>	
<p>Each year, we consider the District Council's control environment and assess the internal controls in place. During our previous audits we have identified some areas for improvement and our recommendations were included in the interim and final management reports.</p>	<p>This was followed up at our interim audit in April. We have included comments on this within sections 1 and 2 of our interim management report.</p>
<b>The risk of management override of internal controls</b>	
<p>There is an inherent risk in every organisation of fraud resulting from management override of internal controls. Management are in a unique position to perpetrate fraud because of their ability to manipulate accounting records and prepare fraudulent financial statements by overriding controls that otherwise appear to be operating effectively. Auditing standards require us to treat this as a risk on every audit.</p>	<p>We have addressed this by:</p> <ul style="list-style-type: none"> <li>• testing the appropriateness of selected journal entries and other adjustments made in the preparation of the financial statements;</li> <li>• reviewing accounting estimates, including the estimation of impairment, for indications of bias; and</li> <li>• evaluating any unusual or one-off transactions, including those with related parties.</li> </ul> <p>We found no indications of management override that would result in a material misstatement in the financial statements, due to fraud.</p>

## 4 Other areas of interest from the Audit Plan



Also in our Audit Plan dated 4 April 2018, we identified the following other areas as items of interest to the Local Government sector.

Audit risk/issue	Outcome
<b>Rates</b>	
Rates are the District Council's primary funding source. Compliance with the Local Government (Rating) Act 2002 (LGRA) in rates setting and collection is critical to ensure that rates are validly set and not at risk of challenge.	<p>We have considered the District Council's compliance with aspects of the Local Government (Rating) Act 2002 (LGRA) that materially impact on the financial statements.</p> <p>Our audit of rates focused on the rates setting process – the consistency and completeness of the resolution and the Funding Impact Statement (FIS). We also reviewed a sample of differentially set and targeted rates to assess whether the matters and factors used are consistent with the LGRA.</p> <p>We have no significant issues to report in relation to rates.</p>
<b>Financial reporting disclosures</b>	
Schedule 10 of the Local Government Act and the Local Government (Financial Reporting) Regulations 2014 detail disclosures to be included in the Annual Report. The District Council should review these requirements to ensure all disclosures have been included in the annual report.	We ensured that all the disclosures required by schedule 10 of the Local Government Act and the Local Government (Financial Reporting) Regulations 2014 have been appropriately included in the District Council's annual report.
<b>Funding impact statements (FIS)</b>	
The District Council's annual report will identify and explain any significant financial and service performance variances from those planned. While the FIS incorporates two years' comparative information, we expect the primary focus of variance explanations at the Group of Activities level and whole of District	<p>We have considered the extent to which the District Council's activities are on track against the 2015/25 LTP.</p> <p>We have assessed the reasonableness and completeness of the variance analysis and explanations in the annual report and are satisfied that they are appropriate.</p>



Audit risk/issue	Outcome
Council will be against the 2015/25 Long-Term Plan (LTP).	
<b>Possible LTP amendments</b>	
<p>Every proposed amendment must be audited. An amendment arises where District Council proposes:</p> <ul style="list-style-type: none"> <li>• a significant change to services levels - section 97 (1)(a); or</li> <li>• to transfer ownership of a strategic asset - section 97(1)(b); or</li> <li>• a significant change to the revenue and financing policy - section 103(4).</li> </ul>	<p>During the course of our audit work, we have not noted any events that would trigger a potential amendment to the LTP.</p>
<b>Conflicts of interest</b>	
<p>Conflicts of interest are an area of concern from two perspectives; probity and the potential for a conflict of interest that is not well managed to create significant legal and reputation risks. During 2007 the Office of the Auditor General (OAG) published two sets of guidance for entities in this area.</p> <p>Managing conflicts of interest: guidance for public entities, explains how to understand conflicts of interest in the public sector, and how to identify, disclose, and manage them. It also considers both the legal and ethical dimensions of conflicts of interest.</p> <p>Guidance for members of local authorities about the law on conflicts of interest provides more specific guidance for councillors. This is an updated version of previously published guidance about the legal requirements that apply to council members in formal decision making at meetings of their authority.</p> <p>The Local Authorities (Members' Interests) Act 1968 controls the making of contracts between councillors and the District Council and prevents councillors from participating in District Council</p>	<p>We remained alert for potential conflicts of interest during the course of our audit.</p> <p>We did not identify any particular issues that we need to bring to your attention in relation to this.</p>



Audit risk/issue	Outcome
matters in which they have a pecuniary interest.	
<b>Elected members – remuneration and allowances</b>	
<p>The Local Government Act gives the Remuneration Authority responsibility for setting the remuneration of local government elected members. The Authority also has the role of approving a Local Authority's policy on allowances and expenses.</p> <p>The District Council's annual report must disclose the total remuneration received by or payable to each member of the local authority in the reporting period. A local authority must disclose remuneration paid or payable to each member from both the local authority and any District Council organisation of the local authority.</p>	<p>We have assessed the District Council's compliance with the requirement to disclose the remuneration of each member of the local authority in the annual report against the relevant Local Government Elected Members Determination and any amendment to that Determination.</p> <p>Our audit did not identify any indication of non-compliance regarding elected members remuneration and allowances.</p>

## 5 Other matters arising from the audit



The following matters were identified in our audit of the financial statements.

### 5.1 Alpine Energy shares valuation

#### Finding

During the 2017/18 financial year the audit team identified that the Alpine Energy Limited (AEL) shares valuation, prepared by Deloitte, may be materially overstated. Another shareholder invested in AEL had requested a new valuation to be completed, due to concerns raised by the Timaru District Holdings Limited (TDHL) directors in 2018, that the value by Deloitte was grossly overstated and as such TDHL wanted the Deloitte valuation to be independently reviewed.

Ernst and Young (EY) were subsequently engaged to perform an independent review of the Deloitte valuation and to then also undertake a valuation of their own.

EY, through discussions with AEL management, have been able to put together a much more compelling (albeit at a significantly reduced value) valuation compared to Deloitte. Key areas of the EY valuation include:

- A better approach such as the inclusion of price reset decisions which more accurately reflect AEL's regulatory environment.
- Extended forecasts for capex and revenue.
- Valuation of the different components of AEL separately and not as one business.
- Compliance with the fair value measurement accounting standard whereas the Deloitte valuation was an indicative valuation.

We believe that the mid-point valuation from the EY report of \$194 million is an acceptable value to use as no organisation has a controlling share. Council subsequently correctly recognised the decrease in value of its shareholding in other comprehensive revenue and expense, and not as a charge against the surplus, as it had sufficient accumulated reserves.

#### Recommendation

- Ensure that Council engages an external expert to prepare a valuation of its shareholding in future years.

- Ensure that the valuation is reviewed, either internally or externally, so that the Council has sufficient assurance that it is appropriate to use in the annual report.

**Management comment**

*Council will consider its options with regards to the engagement of an external expert to prepare a valuation of its shareholding for reporting purposes.*

*Council will consider undertaking a review of the valuation as appropriate, when there is sufficient cause or a significant movement in the valuation from the prior year.*

## 6 Public sector audit



The District Council is accountable to their local community and to the public for its use of public resources. Everyone who pays taxes or rates has a right to know that the money is being spent wisely and in the way the District Council said it would be spent.

As such, public sector audits have a broader scope than private sector audits. As part of our audit, we have considered if the District Council has fairly reflected the results of its activities in its financial statements and non-financial information.

We also consider if there is any indication of issues relevant to the audit with:

- compliance with its statutory obligations that are relevant to the annual report;
- the District Council carrying out its activities effectively and efficiently;
- the District Council incurring waste as a result of any act or failure to act by a public entity;
- any sign or appearance of a lack of probity as a result of any act or omission, either by the District Council or by one or more of its members, office holders, or employees; and/or
- any sign or appearance of a lack of financial prudence as a result of any act or omission by a public entity or by one or more of its members, office holders, or employees.

As part of the audit, we assessed a range of different expenditure types to investigate the performance waste and probity of the District Council's spending. This included a high level review of the use of external consultants, travel, entertainment and use of credit cards. No instances of waste or probity concerns were identified.

## 7 Useful publications



Based on our knowledge of the District Council, we have included some publications that the Council and management may find useful.

Description	Where to find it
<b>Client updates</b>	
In March 2018, we hosted a series of client updates. The theme was "Our high performing and accountable public sector".  These included speakers from both Audit New Zealand and external organisations.	On our website under publications and resources.  Link: <a href="#">Client updates</a>
<b>Model financial statements</b>	
Our model financial statements reflect best practice we have seen to improve financial reporting. This includes: <ul style="list-style-type: none"> <li>• significant accounting policies are alongside the notes to which they relate;</li> <li>• simplifying accounting policy language;</li> <li>• enhancing estimates and judgement disclosures; and</li> <li>• including colour, contents pages and subheadings to assist the reader in navigating the financial statements.</li> </ul>	On our website under publications and resources.  Link: <a href="#">Model Financial Statements</a>
<b>Matters arising from the 2016/17 audits</b>	
The OAG has published a report on the results of the 2016/17 audits for the sector.	On the OAG's website under publications.  Link: <a href="#">Recent publications</a>
<b>Audit Committees</b>	
The OAG has released various best practice information on Audit Committees.	On the OAG's website under "Our Work – Audit Committee Resources"  Link: <a href="#">Audit Committee Resources</a>

Description	Where to find it
<b>Infrastructure as a Service</b>	
The OAG has completed a performance audit on Infrastructure as a Service and considered whether the benefits are achieved.	On the OAG's website under publications. Link: <a href="#">Infrastructure as a Service</a>

## Appendix 1: Status of previous recommendations

### Open recommendations

Recommendation	First raised	Status
<b>Urgent</b>		
No open recommendations.		
<b>Necessary</b>		
<b>Property, Plant and Equipment revaluations</b>		
We recommended: <ul style="list-style-type: none"> <li>The Council ensure all assets within an asset class are revalued when they perform revaluations.</li> <li>Valuations should be completed at an earlier stage to allow time for quality assurance processes and the figures to be included in the financial statements.</li> </ul>	2016/17	Pending.  No issues were identified with the current year revaluation of Land and buildings. However the recommendation was made over infrastructure assets which are next due for revaluation in 2020. Audit will assess the implementation of the recommendation at the annual audit in for the year ending 30 June 2020.
<b>Beneficial</b>		
<b>Documentation of financial reporting and internal control processes</b>		
The District Council consider formally documenting the Financial Reporting and internal control processes.	2014/15	Pending.  No changes noted at our interim and final audits.

### Implemented or closed recommendations

Recommendation	First raised	Status
<b>LTP, Annual Plan and Financial Statements model</b>		
To ensure the model for LTP, Annual Plan and Financial Statements are consistent and allocations documented.	2016/17	Closed.  The financial model used for the 2018/2028 LTP and the 2017/18 Annual Report are consistent. It is expected that the Annual Plan's going forward from



Recommendation	First raised	Status
		2019/20 will also use the same model.
<b>Preparation of the financial statements</b>		
Prepare the draft financial statements in line with agreed dates and implement a quality assurance process before the audit.	2016/17	Closed.  The draft financial statements received for 30 June 2018 were of a high quality
<b>Statement of service performance</b>		
<p>We identified three areas of improvements for the service performance disclosures:</p> <ul style="list-style-type: none"> <li>• Include the number of urgent and non-urgent faults in the Service Performance Statements.</li> <li>• Response times be reviewed for reasonableness, and to ensure that resolution times are not less than response times.</li> <li>• Report detailed comparative results for the statement of service performance measures.</li> </ul>	2016/17	<p>Closed.</p> <p>Audit has suggested that the not measured results for the year include a more detailed comparative result to enhance a readers understanding of Councils performance.</p> <p>Management accepts that the current level of disclosure for all other measures is sufficient.</p>
<b>Disclosure of water supply faults and response times</b>		
<ul style="list-style-type: none"> <li>• Include the number of urgent and non-urgent faults in the Service Performance Statements.</li> <li>• Response times be reviewed for reasonableness, and to ensure that resolution times are not less than response times.</li> </ul>	2016/17	<p>Closed.</p> <p>Management accepts that the current level of disclosure for all other measures is sufficient due to the additional resources required to enhance the measure.</p>

## Appendix 2: Disclosures

Area	Key messages
Our responsibilities in conducting the audit	<p>We carried out this audit on behalf of the Controller and Auditor-General. We are responsible for expressing an independent opinion on the financial statements and performance information and reporting that opinion to you. This responsibility arises from section 15 of the Public Audit Act 2001.</p> <p>The audit of the financial statements does not relieve management or the Council of their responsibilities.</p> <p>Our Audit Engagement Letter contains a detailed explanation of the respective responsibilities of the auditor and the Council.</p>
Auditing standards	<p>We carried out our audit in accordance with the Auditor-General's Auditing Standards. The audit cannot and should not be relied upon to detect every instance of misstatement, fraud, irregularity or inefficiency that is immaterial to your financial statements. The Council and management are responsible for implementing and maintaining your systems of controls for detecting these matters.</p>
Auditor independence	<p>We are independent of the Waimate District Council in accordance with the independence requirements of the Auditor-General's Auditing Standards, which incorporate the independence requirements of Professional and Ethical Standard 1 (Revised): <i>Code of Ethics for Assurance Practitioners</i>, issued by New Zealand Auditing and Assurance Standards Board.</p> <p>Other than the audits, we have no relationship with, or interests in, the Waimate District Council.</p>
Fees	<p>The audit fee for the year is \$90,007 as detailed in our Audit Proposal Letter.</p> <p>Other fees charged in the period are \$71,000, for the audit of the 2018/2028 Long Term Plan</p>

Area	Key messages
Other relationships	<p>We are not aware of any situations where a spouse or close relative of a staff member involved in the audit occupies a position with the Waimate District Council that is significant to the audit.</p> <p>We are not aware of any situations where a staff member of Audit New Zealand has accepted a position of employment with the Waimate District Council during or since the end of the financial year.</p>



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<b>10.2 FORESTRY INVESTMENTS DISCUSSION - 1.00PM</b>
--

**Author:** Karalyn Reid, Committee Secretary and PA to the Mayor

**Authoriser:** Tina Stevenson, Corporate Services Manager

**Attachments:** 1. Forestry Report - Taumano Ltd [↓](#)

**PURPOSE**

Edwin Jansen, of Taumano Ltd, will update Council on Forestry Investments. The Forestry Review document is attached for the information of Council.

Edwin Jansen  
Taumano Limited

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## Waimate District Council Forestry Review

September 2018

Prepared by:

Edwin Jansen

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### Disclaimer

The objective of this report is to provide an independent review of the Forestry Assets held by the Waimate District Council (WDC) and to consider options available to the WDC in relation to these assets.

The WDC has provided the author with the following information: Forest Asset Review – 2005; Silvicultural Work Plan – 2018; WDC Forest Valuation – 1 July 2018 and a spreadsheet containing title references to properties currently managed by the WDC (errors and omissions accepted).

The author has examined this information and undertaken a desktop analysis of the forests and attempted to match forest references with title references.

Taumano Limited and the author do not accept any liability for errors associated with the compiling of this information and for any subsequent commercial decisions made by the WDC in reliance on opinions, projections and recommendations contained in this report.

Taumano Limited advise that neither the company, nor any member or employee of the company gives any undertaking arising from this report to anyone other than WDC personnel and is solely for the purposes stated above.

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WDC - Forestry Review (27 Sept 2018)

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## Terms of Reference

### 1. TERMS OF REFERENCE

#### 1.1 Background

The Waimate District Council (WDC) last conducted an independent review of its forestry assets in 2005.

Since that time, the WDC has sold several forestry properties and all Joint Venture forestry investments have expired. In addition, the forest sector has become subject to the Emissions Trading Scheme (ETS) through the Climate Change Response Act 2002.

The **Forestry Assets** of the WDC are defined to include:

- **Land** (used for commercial forestry activities);
- **Tree Crops** (predominantly Pinus Radiata and Douglas fir); and
- **Carbon Units** (NZU's derived from Pre-1990 and registered Post-1989 forest land).

As at September 2018, the WDC owned 152 hectares of trees having a book value of \$1,653,000. These Trees are located on Land having a nominal value of approximately \$1,050,000. In addition, the WDC holds Carbon Units having a market value this month of \$567,000.

The combined value of the Forestry Assets is approximately \$3.3m.

#### 1.2 Objectives of the Forestry Review

The objective of this report is to provide an independent review of the Forestry Assets and to consider the strategic options available to the WDC in relation to future management.

Specific requirements include:

- a) Provide an update on the forest sector markets;
- b) Outline the relevant forestry provisions of the Emissions Trading Scheme;
- c) Highlight other significant legislative changes that have occurred since the last review;
- d) Consider forest sector investment in 2018;
- e) Review the Forestry Assets
  - i) Describe the Forestry Assets;
  - ii) Determine if the Forestry Assets are providing the WDC with a market Return on Investment;
  - iii) Consider options available to maximise the value of the Forestry Assets;
  - iv) Identify the risks and opportunities under the Emissions Trading Scheme;
  - v) Consider ongoing management requirements of the Forestry Assets.

#### 1.3 Strategic Considerations

The author understands that the WDC has invested in forestry to obtain a commercial return on investment (to compliment income from Rates and achieve broader community outcomes).

It is apparent the WDC holds a portfolio of properties (in both Freehold and various Reserve status) in addition to the Forestry Assets that no longer serve their original purpose, and which have the potential to release capital for re-investment.

## Executive Summary

## 2. EXECUTIVE SUMMARY

## Forestry Assets

- a) The Forestry Assets held by the Waimate District Council (WDC) include Land, Trees and Carbon Units having a value of approximately \$3.3m;

Land and Trees	Productive Area	Stocked Area	Tree Value	Nominal Land Value	Total Value
Freehold	107.9	106.9	\$ 1,328,000	\$ 575,000	\$ 1,903,000
Reserve	38.3	31.3	\$ 268,000	\$ 406,000	\$ 673,000
Crown Land	14.0	14.0	\$ 57,000	\$ 68,000	\$ 125,000
	160.2	152.2	\$ 1,653,000	\$ 1,049,000	\$ 2,701,000
Carbon Units (NZU's)					\$ 567,000
<b>Total Value of Forestry Assets</b>					<b>\$3,268,000</b>

- b) RM Consulting Limited has projected the forests will generate net cash of \$2,750,000 over the next 10 years. In addition, it is likely most of the Carbon Units can be sold generating another \$500,000;

## International Forest Sector Markets

- c) International Log supply into Asia is in decline;
- d) The cost of alternative Log supplies into Asia provides NZ forest owners with attractive profit margins;
- e) Climate change and environmental concerns are resulting in political decisions to reduce or stop indigenous logging;
- f) The long-term trend is for global Log supply to decline;
- g) Wood fibre is a renewable carbon neutral resource;
- h) Wood fibre products also substitute for high carbon emission products such as coal, steel, concrete and plastics;
- i) The fundamental long-term investment outlook for international forest sector trade, carbon forestry and carbon neutral wood products appears favourable and enduring;
- j) Notwithstanding this:
- Short term Log supply and demand imbalances will invariably result in short-term log price movements (creating 6-12 month adverse events);
  - Macro-economic factors (a global financial crisis) and changes in geopolitical trade tariffs (trade wars) will invariably interrupt long-term price trends (creating 2-5 year adverse events);

## Emissions Trading Scheme

- k) New Zealand's Paris Agreement commitments require NZ to find or abate 235m tonnes of emissions between 2021 to 2030 (a 30% reduction). The market value of this carbon is \$5.8 billion dollars);
- l) The NZ Government is advancing amendments to the Emissions Trading Scheme, a Zero Carbon Bill, a Climate Change Commission, a Billion Tree planting campaign, amendments to the Afforestation Grant Scheme, a Provincial Growth Fund... (and more), to ensure NZ meets its Paris Agreement commitments and in addition, for NZ to become carbon neutral by 2050;

- m) Carbon forestry provides the WDC with opportunities to expand its commercial forestry portfolio while generating positive operating cashflows;

**Other Legislative Changes since 2005**

- n) Over the years, forestry investment has become subject to more stringent compliance obligations;
- o) Amendments to legislation directly affecting the forest sector include: the Climate Change Response Act 2002 (the Emissions Trading Scheme), the Health and Safety at Work Act (2015), new District and Regional Plans, a National Environmental Standard for Plantation Forestry and recent amendments to the Overseas Investment Act;

**Forestry Management Considerations**

- p) Carbon forestry investment under the ETS is complicated. This together with more stringent compliance obligations favour the management of small forestry estates (such as the Forestry Assets) by specialist forestry consulting firms having staff with expertise covering, Environmental, RMA, FSC certification, Carbon, ETS, Silviculture, H&S, Mapping, Harvesting and Marketing skills;

**Strategic Considerations**

- q) The WDC is currently managing the Forestry Assets as discrete stands of Trees, adopting a passive management approach and relying on external advice when requested;
- r) This approach contrasts with larger scale Council owned forestry businesses such as Invercargill City Forests Limited (with 3,000 ha of forests) and City Forests Limited (with 21,000 ha of forests);
- s) The WDC has the potential to progressively expand its forestry portfolio;
- t) The implementation of an active investment strategy to expand the forestry portfolio will however require the WDC to adopt a long-term forest expansion strategy and to resource that strategy with management expertise having authority to invest, divest and make commercial decisions;
- u) The WDC may wish to consider the merits of establishing a small forest advisory board to assist a staff member in the management of the Forestry Assets (and with the appointment and oversight of a specialist forestry consulting company);

**Exit Strategy**

- v) Should the WDC wish to immediately liquidate its Forestry Assets, then it would be prudent to first adopt the recommendations in relation to the Waihao Forest and seek a sale of the Freehold assets in late 2019 (once the changes to the ETS are known);

**Specific Recommendations**

- w) This report contains specific "Management" recommendations (and opinions) in relation to the Forestry Assets covering:
  - i) Silvicultural regimes and the timing of harvest;
  - ii) Immediate priorities in relation to the carbon management of the Waihao forest;
  - iii) The management of the WDC's Emissions Trading Scheme Registry account;
  - iv) The avoidance of Deforestation liabilities; and
  - v) The expected returns from carbon forestry under the proposed introduction of Forest Averaging.

## Forest Sector Markets

### 3. FOREST SECTOR MARKETS

#### Macro Factors - International Saw Log & Sawn Timber Trade

- Total Indian/Asian/Pacific wood demand is increasing slowly with population growth, per capita wealth and urbanisation;
- Forests in proximity to Asia are however in decline or being locked up for environmental reasons (China and North America);
- Log supply is declining. The marginal cost of imported Logs into Asia is increasing;
- The increasing marginal cost of supplying Logs (and Lumber) into Asia from alternative exporting countries provides NZ Log exporters with attractive profit margins;

#### China, Russia and New Zealand

- China's total Log demand is around 80 million m<sup>3</sup>/yr (of which 50% is currently softwood (pines) and the balance hardwoods);
- Over the last four years, China has ceased harvesting their forests due to environmental concerns. This has removed 40 million m<sup>3</sup> / yr of China's traditional log supply;
- China has reduced tariffs on imported Logs to encourage imported Log supply and satisfy domestic Log demand;
- In 2015/2016 however, Russia introduced an export tax of 25% on all Log exports (to China) to promote Russian domestic wood processing;
- Russian Log exports are subject to Russian export tariffs while Sawn Timber exports are not;
- Rising Sawn Timber production in Russia together with improved margins in the Chinese market is fuelling a sustained increase in Russian Sawn Timber exports to China (and increasing prices);
- In late 2017 Russia announced it would increase its Log export duty (from 25%) to 40% in 2019, 60% in 2020 and 80% in 2021;
- Russia exported 8.8 million m<sup>3</sup> of Logs to China in 2017 (being 90% of all logs exported from Russia and Europe to China);
- China's total softwood Log imports increased to 40 million m<sup>3</sup> with New Zealand supplying 14 million m<sup>3</sup>;
- As Russian log export tariffs take effect, China will need to source more logs from New Zealand, Australia, Chile and North America;
- In Aug 2018, China included Radiata Pine in the Chinese Code of Design for Timber Structures;
- For the first time, Engineers in China will be able to design and build houses and structures using NZ graded Radiata pine;



## Log Prices

### New Zealand Log Prices Trending Upward



Source: Rayonier Annual Report

## Expanding Markets and Products

- Wood fibre is made up of Cellulose (used to make pulp and fuel) and 20-25% Lignin (the adhesive that binds cell walls in Cellulose);
- There are now several companies investing in global scale plants to separate wood fibre into Cellulose and pure unaltered Lignin. Products include: cellulose based food; cosmetics; pharmaceuticals; paints; filters; impact-resistant and biodegradable plastics; and digital display screens;
- Lignin is increasingly being sought as an environmentally friendly biodegradable substitute to plastic bags and containers. This is an emerging technology;

## Summary

- International Log trade is subject to supply constraints;
- Climate change and environmental concerns are resulting in political decisions to reduce or stop indigenous logging;
- The long-term trend is for global Log supply to decline;
- Wood from plantations forests provide a "renewable-carbon-neutral" substitute for traditional high emission products;
- These factors favour a sustained increase in the demand and price for New Zealand Logs, Lumber and Wood Fibre;

## Emissions Trading Scheme

### 4. EMISSIONS TRADING SCHEME – FORESTRY PROVISIONS

#### 4.1 Paris Agreement

New Zealand is a party to the United Nations Framework Convention on Climate Change (UNFCCC).

The UNFCCC established the Kyoto Protocol which committed certain member countries to greenhouse gas emissions reduction targets for the first commitment period (2008-2012). This was subsequently extended to a second commitment period (2013-2020).

The Paris Agreement was adopted under the UNFCCC in December 2015 to replace the Kyoto Protocol from 2020.

Under the Paris Agreement, New Zealand has committed to reduce greenhouse gas emissions by 30 per cent below 2005 levels by 2030.

#### 4.2 Zero Carbon Bill

In addition to the Paris Agreement commitment, the Government plans to introduce a Zero Carbon Bill.

This bill is intended to establish an independent Climate Change Commission and to establish in law, emission reduction targets including a 2050 Zero net emissions target. The Zero Carbon Bill is expected to be passed in mid-2019.

#### 4.3 Emissions Trading Scheme

The Emissions Trading Scheme is NZ's key policy tool for reducing net emissions and achieving emission reduction targets.

The ETS is established under the Climate Change Response Act 2002 ("CCRA").

The Government considers there are three ways NZ can meet its Paris Agreement target:

- a) Reduce emissions;
- b) Increase carbon sequestration from afforestation; and
- c) Offsetting emissions through the acquisition of offshore carbon;

Note:

- The Climate Change Commission will consider (amongst other things) the introduction of the agriculture sector into the Emissions Trading Scheme;
- The Government acknowledges that afforestation is one of New Zealand's most important options to deliver low-cost carbon dioxide removals at scale.

This explains the Government's focus on key forest sector initiatives: The One Billion Tree programme, the Provincial Growth Fund, Afforestation Grant Scheme, Erosion Control Funding Programme, amendment to the forestry provisions in the Emissions Trading Scheme, Crown Forestry Afforestation Joint Ventures with landowners ...;

- The Paris Agreement does not place a legal obligation on the NZ Government to purchase offshore carbon;

#### 4.4 New Zealand Emission Trading Register

The ETS establishes the “New Zealand Emission Trading Register” (NZETR).

<https://www.epa.govt.nz/industry-areas/emissions-trading-scheme/about-the-nzets/the-emissions-trading-register/>

The WDC has an account in the (and is a registered Participant) in the NZETR (NZ-5104). The carbon units held by the WDC are held in this register.

This register records the ownership of carbon units (NZU). It is through this register that the Government issues NZUs to persons sequestering carbon (i.e. forest owners) and records obligations to persons emitting carbon (i.e. fuel companies).

There is an active trade in NZUs in New Zealand (and carbon in overseas carbon markets).

Major carbon Emitters and Traders in NZ include:



#### 4.5 Carbon Prices

The market price of carbon is increasing in response to emission obligations and expected tightening of obligations under the Paris Agreement.

Spot Price: 25 Sept 2018: \$25.03 / NZU



Source: OMF Financial



#### 4.6 Forestry in the Emissions Trading Scheme

Below is a brief and incomplete summary of the compliance obligations (and opportunities) of land and forest owners under the Climate Change Response Act 2002.

The summary is targeted at the Forestry Assets administered by the WDC.

##### Types of Forest Land

The ETS defines several categories of land according to Kyoto Protocol rules. Those relevant to the Forestry Assets (and the other land holdings of the WDC) include:

**forest land:** Means: at least 1.0 hectare of land in **tree species** capable of reaching 5 meters in height at maturity with a stocking density capable of reaching 30% crown cover on each hectare. (Forest land does not include shelterbelts that have an average width of less than 30 meters).

**Pre-1990 forest land:** Means: Land that was occupied with exotic tree species (i.e. forest) prior to 1990.

This land is subject to deforestation liabilities upon a change of landuse that is not forest land. To avoid a deforestation liability, the land should be either replanted after harvest or left to regenerate back to forest land.

**Post-1989 forest land:** Means: Land that was not occupied with tree species at the end of 1989 (i.e. bare farm land) and which has subsequently been planted or regenerated into forest land after 1989 (either exotic or indigenous).

This land is eligible to be registered in the ETS and to receive carbon units (NZUs) from the date of registration.

Caution: for complete definitions, refer the CCRA 2002.

#### 4.7 Deforestation Liabilities

Pre-1990 forest land is subject to deforestation liabilities under the Climate Change Response Act 2002 in the event the land is converted to a landuse that is not forestry.

The Act contains definitions for "forest land", "forest species" and "deforest" that impact on the interpretation of when deforestation has occurred. These definitions and section 179 of the Act are considered relative to the Pre-1990 forest land held by the WDC.

Caution: Do not rely on this interpretation for any other purpose.

**deforest**, in relation to forest land, (a) means to convert forest land to land that is not forest land; and ...

##### **Section 179 – Forest Land to be treated as Deforested in certain cases**

(1) Without limiting paragraph (a) of the definition of deforest in section 4(1), a hectare of forest land must be treated as deforested for the purposes of this Act, if the forest species on that land have been cleared (harvested) and—

- a) 4 years after clearing (harvesting), the hectare has not—
  - i) been replanted with at least 500 stems of forest species; or
  - ii) naturally established a covering of at least 500 stems of forest species; or
- b) 10 years after clearing, predominantly exotic forest species are growing, but that hectare does not have tree crown cover of at least 30% from trees that have reached 5 metres in height; or
- c) 20 years after clearing, predominantly indigenous forest species are growing, but that hectare does not have tree crown cover of at least 30% from trees that have reached 5 metres in height.

**Implications – 8.0 hectares of Reserve land that remains unplanted**

- The WDC holds approximately 8.0 hectares of Pre-1990 forest land that has been harvested and left fallow. Unless there are regenerating trees on that land which meets the definition of forest land, then the land may become subject to deforestation liabilities;
- If deforestation has occurred, the WDC is required to submit a deforestation return under the ETS;
- These stands appear to have been harvested at the age of 30 years old. The potential deforestation liability is calculated at \$14,300 / ha (572 tonnes per ha x \$25/ NZU) (A total potential liability of \$114,400 for all 8.0 hectares);
- It is recommended the WDC inspect this land and determine its future use:
  - If the land is to be retained as forest land for commercial purpose, then it is recommended the land be prepared for re-establishment in 2019 (to avoid deforestation liabilities and achieve a viable next crop);
  - If the land is to be sold, it is recommended the WDC submit a deforestation return, surrender the required NZU's and sell the land;

Note: Other options exist;

**4.8 Proposed Amendments to the Forestry Provisions of the ETS**

In September 2018, the Government undertook consultation on proposed changes to the forestry provisions of the Emissions Trading Scheme.

The objective of these changes is to align the NZ ETS provisions with the Paris Agreement and to better promote investment in afforestation and harvested wood products.

Proposed changes include:

- Creating a land definition called "New Forests" where a landowner can earn carbon (in the first 19-20 years following planting of a new forest on Eligible land) without the requirement to surrender carbon at the time of harvest (to be known as "Forest Averaging");
- Options for Post-1989 forest land to transition to Forest Averaging; and
- Reduced compliance costs and more flexibility in the measurement of carbon in stands.

These changes will improve the returns (and reduce risks) of investing in carbon forestry.

The changes will also impact the harvesting decisions of the Waihao forestry block and will influence decisions on the sale or retention of Carbon Units held by forest owners;

#### 4.9 Carbon Forestry Investment

The rules governing carbon forestry investment under the Emissions Trading Scheme are currently subject to proposed amendments.

It is proposed the "Post-1989 forest land" regime will be superseded by a "Forest Averaging" regime (refer above).

It is expected that:

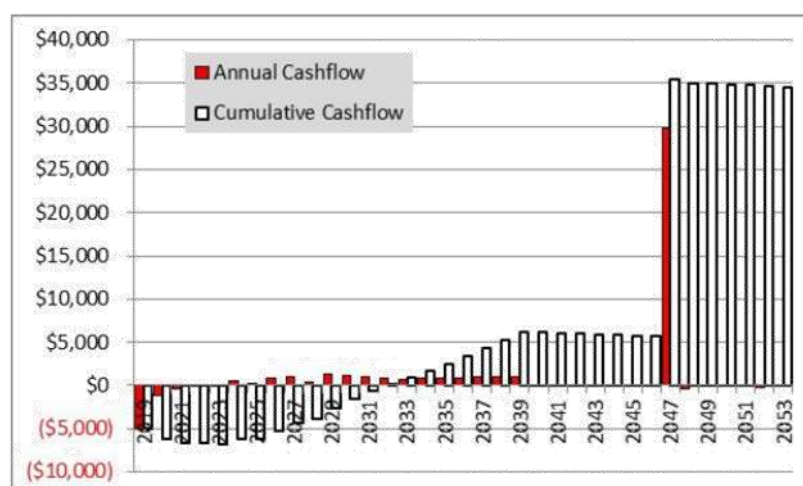
- All new first-rotation-forestation projects will have the opportunity to register their forests as "New Forest" under Forest Averaging rules; and
- Existing Post-1989 participants will receive one or more options to transition to the New Forest / Forest Averaging regime.

Following the introduction of Forest Averaging, the expected returns from purchasing farmland and planting carbon forests are anticipated to be favourable, less complicated and lower risk.

The economic returns are tentatively projected in the table below (assuming a carbon price of \$25/t, current economic conditions and subject to the final shape of the legislation and regulations):

Carbon Forestry Opportunity	Example 1	Example 2
Investment in Land and Trees	\$4,118 /ha	\$6,633 /ha
Land - Nominal Value	\$2,500 /ha	\$5,000 /ha
Trees - Afforestation Cost (to Year 2)	\$1,618 /ha	\$1,633 /ha
First Carbon Income	Age 4	Age 4
Cash Payback	Year 12	Year 14
Average Annual Profit (Yr 3 to 20)	\$1,206 /ha	\$1,214 /ha
Average Annual Cashflow (Yr 3 to 20)	\$641 /ha	\$641 /ha
IRR (no Inflation)	12.9%	9.6%

The cashflows of purchasing one hectare of "eligible" farmland for \$5,000 / ha and investing in carbon forestry under the assumed rules for "Forest Averaging" is illustrated below (\$/ha):



## Other Legislative Changes

### 5. OTHER LEGISLATIVE CHANGES IMPACTING FOREST SECTOR INVESTMENT

#### 5.1 Health and Safety at Work Act (2015)

The WDC has a primary duty of care to ensure the health & safety of all persons undertaking operations on their Forestry Assets.

This review has not examined the H&S procedures adopted by the WDC to manage the operations and risks inherent in their Forestry Assets.

Practicable steps to meet responsibilities include:

- Enter into contract agreements with competent and safe contractors which clarify responsibilities under the HSW Act 2015;
- Review contractors H&S management systems;
- Consult, Co-operate and Co-ordinate activities with persons undertaking operations, neighbours and persons who may enter operational areas;
- Assess and manage on-site risks/hazards;
- Secure the work site, manage and communicate residual risks and forest hazards;
- Ensure operations are undertaken in accordance with the Approved Code of Practice for Safety and Health in Forestry Operations;
- Report all incidents, near misses & accidents, with any serious harm accidents reported as soon as possible;

The WDC must also ensure, so far as is reasonably practicable, that the health and safety of other persons is not put at risk from work carried out on the Forestry Assets.

#### 5.2 Waimate District Plan (Operative 28 February 2014)

The Waimate District Plan contains the following policy:

*Policy 6D - Forestry and Trees:*

*To control those aspects of forestry and trees which adversely impact on the amenity and environment of the rural area, in particular the more sensitive environments of the hill and high country and Outstanding Natural Landscapes and Features.*

Forestry activity in the Rural Zone is a "Permitted Activity" other than in the "Hill and High-Country Sub Zone".

Forestry activity in the Hill and High-Country Sub Zone is a "Discretionary Activity". The plan contains broad assessment matters including controlling vegetation clearance, earthworks, harvesting near waterways, planting near boundaries, houses, controls on wilding trees and effects on visual amenity landscape.

The Plan contains forestry setbacks from boundaries of 15m in the Rural Zone and 50 meters from an existing dwelling on a separate site under different ownership.

#### Implications

- It is unlikely that new commercial forestry investment will occur in the WDC zone at scale above 650m in altitude. Notwithstanding this, any expansion of the WDC Forestry Asset portfolio in the "Hill country zone" will require a resource consent.



- Setbacks may adversely impact small scale forestry requiring poor site utilisation and additional boundary weed control management. This is particularly relevant given the number of Forestry Assets located on reserves less than 5 hectares in area;

### 5.3 National Environmental Standards for Plantation Forestry (2018)

The National Environmental Standards for Plantation Forestry (NES-PF) came into effect on 1 May 2018.

The NES-PF regulations cover 8 core plantation forestry activities that have potential environmental effects:

- afforestation (planting new forest)
- pruning and thinning to waste (selective felling of trees where the felled trees remain on site)
- earthworks
- river crossings
- forestry quarrying (extraction of rock, sand, or gravel within a plantation forest or for operation of a forest on adjacent land)
- harvesting
- mechanical land preparation
- replanting.

The NES-PF applies to any forest of at least one hectare that has been planted specifically for commercial purposes and will be harvested.

#### Implications

- The Forestry Assets located in the WDC Rural Zone have an Erosion Susceptibility Classification of low (green) or moderate (yellow);
- The WDC will need to confirm compliance with the NES-PF before undertaking forestry operations. In particular:
  - Earthworks: The WDC will need to submit an earthworks management plan to the Canterbury Regional Council for all forestry earthworks greater than 500m<sup>2</sup> in any 3-month period. Any earthworks over 5000m<sup>2</sup> will require a resource consent assessed as a Controlled Activity;
  - Quarry Activities: The Permitted Activity threshold is 200m<sup>2</sup> in any year;
  - Harvesting Activities: Harvesting is a Permitted Activity in the green and yellow erosion zones subject to compliance of various permitted activity conditions relating to: prior notice to councils, sediment, provision of a harvest plan, ground disturbance, waterbody restrictions and slash and debris management obligations;
  - Mechanical Land Preparation: Mechanical Land Preparation is a Permitted Activity in the green and yellow erosion zones subject to compliance of various permitted activity conditions;
  - Replanting: Replanting is a Permitted Activity (except in the red erosion zone) subject to compliance of specified setbacks and wilding tree risk assessment. A 5m setback is required from a perennial river with a channel width of less than 3m and a 10m setback is required for all larger rivers
  - Discharge of Sediment to waterways: Permitted Activity subject to compliance of standards across all operations;
- The NES-PF will increase the complicate costs of undertaking commercial forestry;

**5.4 Overseas Investment Act (2018 amendment)**

The Overseas Investment Amendment Bill (Dec 2017) has passed its third reading and will become law on 22 October 2018.

Among other amendments, this will allow an overseas investor to obtain a “standing consent” to purchase land for forestry purposes.

A “standing consent” is essentially a “pre-approval to purchase land” subject to an obligation on the applicant to give notice to the Overseas Investment Office that land has been purchased and to satisfy certain requirements and conditions of consent.

**Implications**

- It is expected several overseas companies will obtain a standing consent and commence the incremental expansion of their forest estates across New Zealand;
- A standing consent will enable an overseas investor to compete more effectively (with NZ investors) in the acquisition of forestland and farmland for forestry and carbon forestry investment;

## Review of Forestry Assets

## 7. REVIEW OF FORESTRY ASSETS

## 7.1 Recent advice from RM Consulting Limited

In July 2018, RM Consulting Limited has provided the WDC with a:

- Valuation Report of the Tree Crops (30 June 2018); and
- Silvicultural Work Plan setting out the work programme for the next 10 years (and a budget for the 2018/19 year and forecast for the 2019/20 year);

The budget and forecast contained in the Silvicultural Work Plan is reproduced below:

WDC FORESTS	FOREST MANAGEMENT EXPENDITURE									
	Year Beginning 1 July									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Area Information										
Area at Year Start	156.2	160.2	160.2	160.2	160.2	160.2	160.2	160.2	160.2	160.2
Area Harvested	4.0						14.2	3.2	106.6	
Area for Replant	8.0						14.2	3.2	3.5	103.3
Area at Year End	160.2	160.2	160.2	160.2	160.2	160.2	160.2	160.2	160.2	160.2
WDC Net Harvest Rev	\$80,778						\$281,831	\$63,511	\$2,776,647	
Costs Existing Crop										
Thin 2006 Crop	\$3,325									
Pruning 2012 Crop	\$6,000			\$5,450						
Thinning 2012 Crop				\$4,750						
Pruning 2014 Crop			\$8,400			\$7,630				
Thinning 2014 Crop						\$6,650				
D fir Thinning										
Pre Harvest Inventory						\$6,198				
Re-establishment Crop Costs										
Machine Preparation	\$8,640						\$15,336	\$3,456	\$3,780	
Pre Plant Spray	\$4,000						\$7,100	\$1,600	\$1,750	
Planting	\$10,640							\$18,886	\$4,256	\$4,655
Releasing	\$7,840							\$6,816	\$1,536	\$1,680
Fertilizer - Boron				\$1,880						\$3,337
Prune 1 New Crop							\$9,600			
Prune 2 New Crop										\$8,720
Thinning New Crop										\$7,600
Crop Investment	\$40,445		\$8,400	\$12,080		\$20,478	\$32,036	\$30,758	\$11,322	\$25,992
Administration	\$10,223	\$10,223	\$10,223	\$10,223	\$10,223	\$10,223	\$10,223	\$10,223	\$10,223	\$10,223
Total Expenses	\$50,668	\$10,223	\$18,623	\$22,303	\$10,223	\$30,701	\$42,259	\$40,981	\$21,545	\$36,215
Net Cashflow	\$30,111	-\$10,223	-\$18,623	-\$22,303	-\$10,223	-\$30,701	\$239,572	\$22,531	\$2,755,102	-\$36,215

Source: WDC Silvicultural Work Plan (dated July 2018) prepared by RM Consulting Limited

RM Consulting Limited gave a strong recommendation to attend to the re-establishment of the 8.0 hectares of Pre-1990 forest land located on Reserve land (to avoid any possibility of incurring a deforestation liability).

The author fully supports that recommendation. (Refer also paragraph 4.7 above relating to Deforestation Liabilities)



## 7.2 Description of Forestry Assets – Tree Crops

The Forest Valuation (dated July 2018) prepared by RM Consulting Limited documented Tree Crop values as follows:

Forest	Stand	Productive Area (Ha)	Planting Year	Area Ha (NSA)	Species	Age	Years Felled	ETS Status	Tree Value (RM)
McAlwee	301	1.9	2012	1.9	P.rad	6		Pre-1990 (assumed)	\$ 7,900
Drinnans	401	10.0	2013	10.0	D. fir	5		Pre-1990 (assumed)	\$ 41,800
Pakihi	701	1.8	2006	1.8	P.rad	12		Pre-1990 (assumed)	\$ 7,000
Pakihi	702	1.7	2006	1.7	P.rad	12		Pre-1990 (assumed)	\$ 6,600
Pakihi	703	3.5					3	Pre-1990	\$ -
Keenans	1101	1.1	2012	1.1	P.rad	6		Pre-1990 (assumed)	\$ 4,500
Rattray	1201	2.5	1999	2.5	C mac	19		Pre-1990 (assumed)	\$ 14,400
Lucks	1301	2.0	2012	2.0	P Rad	6		Pre-1990 (assumed)	\$ 8,300
Old Ferry	1601	2.0					3	Pre-1990	\$ -
Grays Cnr	1701	1.5					3	Pre-1990	\$ -
North St	2601	2.0	2014	2.0	P.rad	4		Pre-1990 (assumed)	\$ 7,100
Whitneys	2901	1.0					4	Pre-1990	\$ -
Glenavy	3001	14.2	1994	14.2	P.rad	24		Pre-1990 (assumed)	\$ 159,800
Glenavy	3002	3.2	1995	3.2	P.rad	23		Pre-1990 (assumed)	\$ 32,700
McNamara	3101	3.5	1996	3.5	P.rad	22		Pre-1990 (assumed)	\$ 36,100
McNamara	3102	5.0	2014	5.0	P.rad	4		Pre-1990 (assumed)	\$ 17,800
Waihao	1.01	44.7	1996	44.7	P.rad	22		Post-1989 (in ETS)	\$ 616,300
Waihao	2.01	15.5	1996	15.5	P.rad	22		Post-1989 (in ETS)	\$ 213,200
Waihao	2.02	43.1	1996	43.1	P.rad	22		Post-1989 (in ETS)	\$ 479,600
		160.2		152.2					\$ 1,653,100

Please Note: Over the last 12 months, log prices have been around 15% higher than the "normalised" log prices adopted in this statutory valuation.

## 7.3 Description of Forestry Assets – Land

The WDC does not hold a definitive database of the specific titles associated with the Trees. From investigations, the following match between Titles and Trees has been compiled.

Land	Status	Appellation	Hectares	GV Capital	Forest
Waihao Forest	Freehold	LOT 2 DP 64435 BLK VI WAITAKI SD	105.04	\$ 295,000	Waihao
Whitneys Rd	Freehold	R 5 30264 BLK XI WAIMATE SD	8.0937	\$ 36,000	Whitneys
Mill Rd	Freehold	Pt RS 5743 (CB16/132)	2.9997		Rattray
Waimate Hunter Rd	Freehold	SFC 10 LANDSDOWN SETT (CB291/54)	1.6187	\$ 12,000	Keenans
Knottingly Park	Reserve	SECT 1-3 SO 20189 XIV XV WAIMATE SD	63.737	\$2,220,000	McNamara
Glenavy Properties	Reserve	R 290 & 355 PT RS 41037 plus Res 2914	26.1034	\$ 135,000	Glenavy
Teschemaker Valley Rd	Reserve	GAZ 37-12 RES 3559 BLK II WAIMATE SD	5.4835	\$ 29,000	Pakihi
Old Ferry RD	Reserve	RES 813 BLK XI WAITAKI SD-GRAVEL RES	2.0487	\$ 21,000	Grays Cnr
Old Ferry RD	Reserve	RES 814 BLK VI WAITAKI SD-GRAVEL RES	2.0234	\$ 12,000	Old Ferry
Gordons Valley Rd	Reserve	GAZ 65-949 RES 4749 BLKS VI X OTAIO SD	1.924	\$ 8,500	McAlwee
Drinnans Bridge	Crown Land	River Bed (Crown Land) - no Title	10.000		Drinnans
Waimate HWY	Crown Land	LOT 12 DP 1205 BLK III WAITAKI SD	2.0234	\$ 29,000	Lucks
Unknown	Crown Land	Unknown	2.0000		North St
Total			233.1	\$2,797,500	

Source: Compiled from WDC land Asset Register 30 June 2018 (may contain errors or omissions)

**7.4 Description of Forestry Assets – Land and Tree Crops**

To obtain an estimate of the total Capital employed by the WDC in "Trees" and "Land associated with Trees", it is necessary to adjust the Land Value to reflect only the land value associated with the Trees. For instance, Knottingly Park is held in a Title of 63 hectares whereas only 8.5 hectares is in Trees.

The nominal Land Value adopted in the table below is a rough estimate of the highest and best use of the land (taking into account the presence of Trees).

This suggests the total capital employed by the WDC in both Land and Trees (commercial forestry) is in the order of \$2.7m.

Land	Status	Hectares	GV Capital	Forest	Productive Area	Stocked Area	Crop Valuation	Nominal Land Value	Total Nominal Value
Waihao Forest	Freehold	105.04	\$ 295,000	Waihao	103.3	103.3	\$ 1,309,100	\$ 295,000	\$ 1,604,100
Whitneys Rd	Freehold	8.0937	\$ 36,000	Whitneys	1.0	0.0	\$ -	\$ 80,000	\$ 80,000
Mill Rd	Freehold	2.9997		Rattray	2.5	2.5	\$ 14,400	\$ 150,000	\$ 164,400
Waimate Hunter Rd	Freehold	1.6187	\$ 12,000	Keenans	1.1	1.1	\$ 4,500	\$ 50,000	\$ 54,500
Knottingly Park	Reserve	63.737	\$2,220,000	McNamara	8.5	8.5	\$ 53,900	\$ 200,000	\$ 253,900
Glenavy Properties	Reserve	26.1034	\$ 135,000	Glenavy	17.4	17.4	\$ 192,500	\$ 135,000	\$ 327,500
Teschemaker Valley Rd	Reserve	5.4835	\$ 29,000	Pakihi	7.0	3.5	\$ 13,600	\$ 29,000	\$ 42,600
Old Ferry RD	Reserve	2.0487	\$ 21,000	Grays Cnr	1.5	0.0	\$ -	\$ 21,000	\$ 21,000
Old Ferry RD	Reserve	2.0234	\$ 12,000	Old Ferry	2.0	0.0	\$ -	\$ 12,000	\$ 12,000
Gordons Valley Rd	Reserve	1.924	\$ 8,500	McAlwee	1.9	1.9	\$ 7,900	\$ 8,500	\$ 16,400
Drinnans Bridge	Crown Land	10.000		Drinnans	10.0	10.0	\$ 41,800	\$ 30,000	\$ 71,800
Waimate HWY	Crown Land	2.0234	\$ 29,000	Lucks	2.0	2.0	\$ 8,300	\$ 29,000	\$ 37,300
Unknown... Assume	Crown Land	2.0000		North St	2.0	2.0	\$ 7,100	\$ 8,500	\$ 15,600
<b>Total</b>		<b>233.1</b>	<b>\$2,797,500</b>		<b>160.2</b>	<b>152.2</b>	<b>\$ 1,653,100</b>	<b>\$1,048,000</b>	<b>\$ 2,701,100</b>
	<b>Freehold</b>		<b>\$ 343,000</b>		<b>107.9</b>	<b>106.9</b>	<b>\$ 1,328,000</b>	<b>\$ 575,000</b>	<b>\$1,903,000</b>
	<b>Reserve</b>		<b>\$2,425,500</b>		<b>38.3</b>	<b>31.3</b>	<b>\$ 267,900</b>	<b>\$ 405,500</b>	<b>\$ 673,400</b>
	<b>Crown Land</b>		<b>\$ 29,000</b>		<b>14.0</b>	<b>14.0</b>	<b>\$ 57,200</b>	<b>\$ 67,500</b>	<b>\$ 124,700</b>
	<b>Total</b>		<b>\$2,797,500</b>		<b>160.2</b>	<b>152.2</b>	<b>\$ 1,653,100</b>	<b>\$1,048,000</b>	<b>\$ 2,701,100</b>

Source: Compiled from WDC land Asset Register and latest Forest Valuation (may contain errors or omissions)

**7.5 General Observations****7.5.1 Small Scale Forestry**

Many industry participants will advise that disbursed small scale forestry investments (less than 15 hectares) suffer from lack of scale, boundary issues and setbacks, and incur high operational costs. They cannot be described as mainstream commercial forestry investments.

On the positive side, all forests are located on flat land, beside formed county roads and close to the port of Timaru.

Given the small scale of the forestry blocks, they may represent attractive investment opportunities for adjoining farmland owners, or in some cases, as lifestyle properties.

The value of the Land will often exceed the Tree value (taking into account the cost of partial deforestation to create a house site).

**7.5.2 Forests less than Two hectares**

In my opinion, the retention of these forests within a corporate entity such as the WDC for the purposes of obtaining a commercial return on investment is not credible.

However, the disposal of these forests (on Reserve Land) will take a considerable amount of time and will also incur overhead costs that maybe prohibitive. Requirements include:

- Removing the reserve status;
- Harvesting the trees and attend to deforestation liabilities (if any) – or just sell;
- Selling the Land (and residual Trees) and reinvesting elsewhere.

It is noted the WDC holds numerous small reserves in addition to the Forestry Assets. Many of these “reserves” are already in pasture and utilised by the adjoining landowner.

Recommendation:

- It is recommended the Council prepare a complete inventory of “Reserve” land and determine which are surplus to Council requirements.

**7.5.3 Radiata – Pruning Regime**

The WDC has adopted a general policy of pruning stands and harvesting at age 29-30 years.

Forestry companies around New Zealand have significantly reduced (or ceased) pruning regimes in favour of improved genetics, higher stockings, higher volumes, lower investment, lower risk “Unpruned” regimes that can also be harvested at younger ages (25-28 years).

Recommendation:

- It is recommended the Council adopt a higher stocked unpruned radiata regime and plant high-density cuttings (as opposed to seedlings).

**7.5.4 Compliance Obligations**

Compliance obligations have increased significantly since the last Forestry Review in 2005.

Higher compliance obligations favour the management of forests by specialist forestry consulting firms having specialist staff covering, Environmental, RMA, FSC certification, Carbon, ETS, Silviculture, H&S, Mapping, Harvesting and Marketing skills.

Recommendation:

- It is recommended the WDC tender the management of the Forestry Assets before 2020-2022 prior to the next phase of harvesting;
- In the interim, it is recommended the WDC engage a forestry company with specialist skills in carbon forestry to:
  - manage the mapping of stand records;
  - oversee the compliance of ETS obligations;
  - maintain carbon records and interact with MPI on carbon compliance; and
  - investigate how to optimise the carbon and forestry returns of the Waihao forest.



**7.6 Observations on Specific Forests****7.6.1 Waihao Forest (Freehold Land)**

Stand	Productive Area (Ha)	Planting Year	Area Ha (NSA)	Species	Age	ETS Status
1.01	44.7	1996	44.7	P.rad	22	Post-1989 (in ETS)
2.01	15.5	1996	15.5	P.rad	22	Post-1989 (in ETS)
2.02	43.1	1996	43.1	P.rad	22	Post-1989 (in ETS)

This is a well located and well established 103.3 hectare forest on freehold land.

The forest has been valued at \$1,309,000 and the GV of the land is \$295,000 giving an asset value of \$1,600,000 or \$15,500 / ha.

The WDC has registered 99.8 ha of this land as Post-1989 forest land and the WDC holds \$506,000 of NZUs against this forest.

**Opinion**

- Despite favourable log prices, this mostly pruned forest is too young to consider harvesting. In addition, proposed changes to the ETS in 2020 are expected to make a material difference to the financial returns available from this forest.
- Harvesting should be delayed until the outcome of the ETS is known and the trees are at least 26 years old.
- In the interim, the wood value of this forest is increasing in value at around \$110,000 pa and the carbon value is increasing at around \$75,000 pa (under current market conditions);

**Recommendation**

- It is recommended the WDC engage the carbon forestry specialist in 2018 to investigate how to optimise the carbon and forestry returns of the Waihao forest.

(Options include: registering all 103.3 hectares as post-1989 forest land asap (to undertake carbon measurement) transitioning to Forest Averaging once the changes to the ETS legislation take effect in 2020. Delaying any consideration on harvesting until these recommendations have been received);

## 7.6.2 Glenavy Forest (Reserve Land)

Stand	Productive Area (Ha)	Planting Year	Area Ha (NSA)	Species	Age	ETS Status	Tree Value (RM)
3001	14.2	1994	14.2	P.rad	24	Pre-1990 (assumed)	\$ 159,800
3002	3.2	1995	3.2	P.rad	23	Pre-1990 (assumed)	\$ 32,700

This forest of 17.4 hectares is located on 26.1 hectares of Reserve land/river bed.

Glenavy forest has both recreational and commercial forestry attributes.

The forest has been valued at \$192,500 or \$11,000 / ha. That appears to be highly conservative at current log prices.



Recommendation:

It is recommended the WDC:

- prepare a harvest plan for the Glenavy forest (taking account of areas that should remain unharvested for recreational purposes);
- obtain estimates (from harvest management companies) on the expected return of harvesting this forest over the next 12 months;
- decide whether or not to harvest this forest (and if the decision is to harvest, tender the management of harvesting, marketing and replanting);
- Replant the forest in predominantly Pinus Radiata plus 1,000 redwood trees in strategic recreational locations to enhance the long-term recreational value of this forest;



## 7.6.3 McNamaras Road Forest (Knottingly Park)

Stand	Productive Area (Ha)	Planting Year	Area Ha (NSA)	Species	Age	ETS Status	Tree Value (RM)
3101	3.5	1996	3.5	P.rad	22	Pre-1990 (assumed)	\$ 36,100
3102	5.0	2014	5.0	P.rad	4	Pre-1990 (assumed)	\$ 17,800

This forest is recorded as 8.5 hectares of stocked area as at 30 June 2018.

The aerial photograph below shows 3.5 hectares of mature Trees together with two yellow outlines where mature Trees once stood in 2013 totalling 10.5 ha.

2.0 hectares remain unaccounted for and are either planted (but not recorded) or have been converted to another landuse.

The forest has been valued at \$54,000.

**Recommendation:**

It is recommended the WDC:

- Check what parts of this land are Pre-1990 forest land;
- Consider whether plantation forestry is the best use of this land to avoid forests being re-established in locations that disrupt future utility needs (or as an extension of Knottingly Park in which case, perhaps a stand of Redwoods);

## 7.6.4 Whitneys Rd (Freehold Land)

Stand	Productive Area (Ha)	Planting Year	Area Ha (NSA)	Species	Age	ETS Status
2901	1.0					Pre-1990

This land is recorded as being owned by "The Waimate Borough Council". The stand records indicate that 1.0 hectare of Radiata Trees were harvested in 2014 and the land is awaiting re-planting.

The majority of the land appears to be covered in regenerating native bush.

The adjoining owner has also harvested their Trees and has built a house on the property.



## Recommendation

- It is recommended that WDC consider the merits of retaining this property.



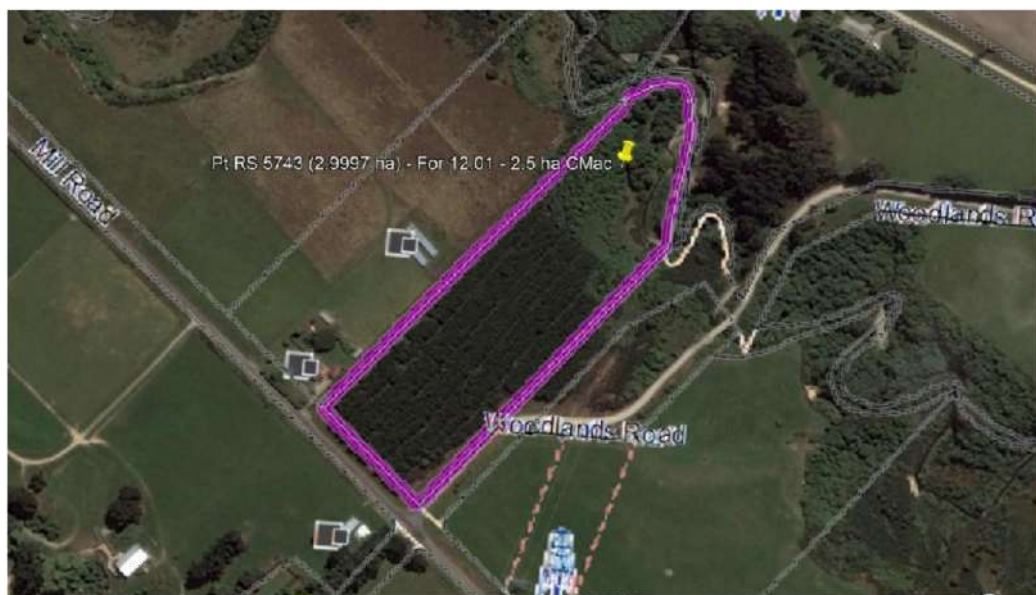
## 7.6.5 Rattray Forest (Freehold Land)

Stand	Productive Area (Ha)	Planting Year	Area Ha (NSA)	Species	Age	ETS Status	Tree Value (RM)
1201	2.5	1999	2.5	C mac	19	Pre-1990 (assumed)	\$ 14,400

This land is recorded as being owned by "The Waimate Borough Council". No Government Valuation of the land is recorded (Title: CB16/132 – 2.997 ha);

The stand records indicate that 2.5 hectares of *Macrocarpa* were planted in 1999 which may be due for harvest in 2034.

The Land has a considerably higher value than the Trees.



## Recommendation

- It is recommended that WDC consider the merits of retaining this property.

## 7.6.6 Drinnans Bridge Forest &amp; Lucks Forest (Crown Land)

Stand	Productive Area (Ha)	Planting Year	Area Ha (NSA)	Species	Age	ETS Status	Tree Value (RM)
401	10.0	2013	10.0	D. fir	5	Pre-1990 (assumed)	\$ 41,800
1301	2.0	2012	2.0	P Rad	6	Pre-1990 (assumed)	\$ 8,300

Stand 401 is a young Douglas fir forest of 10.0 hectares located on Crown Land having no title. The forest is valued at \$42,000 and will not be harvested until around 2060.



Stand 1301 is a young Radiata forest of 2.0 hectares also located on Crown Land (CB173/61).

**Recommendation**

- Retain ownership of both forests (and seek a transfer of title from the Crown).

## 7.6.7 Keenans Forest - Waimate Hunter Rd – (Freehold)

Stand	Productive Area (Ha)	Planting Year	Area Ha (NSA)	Species	Age	ETS Status	Tree Value (RM)
1101	1.1	2012	1.1	P.rad	6	Pre-1990 (assumed)	\$ 4,500

This land is recorded as being owned by "The Waimate County Council". The Government Valuation of the land is recorded as \$12,000. (Title: CB291/54 – 1.6187 ha);

This land has no special features or location that would suggest a viable profit margin can be obtained by selling this land.



## Recommendation

- Retain ownership of this forest unless the adjoining owner (or another party) is prepared to purchase the property for a fair price.



7.6.8 Other Reserve Forests

<p>McAlwee 1.924 Title Hectares</p>	
<p>Pakihi Forest (Teschemaker Valley Rd) 5.4835 ha Title Hectares</p>	
<p>Grays Corner 2.0487 Title Hectares</p>	

## Review of Carbon Assets

### 8. REVIEW OF CARBON ASSETS

#### 8.1 Description of the Forestry Assets – Carbon

The June 2017 Annual Report of the WDC contains the following information.

*Following registration with the Emissions Trading Scheme, Council has applied for carbon credits for the pre-1990 forests it operates. A total number of 2,460 credits has been received so far, and if sold these would have a value of \$42,321 on the tradable carbon credit market as at 30 June 2017. Council has also registered 99.8ha of post-1989 forest and was able to claim 7,577 credits for carbon sequestered between 1 Jan 2008 and 31 Dec 2012. As at 30 June 2017 these have a value of \$130,342.40 on the tradable carbon credit market. No Voluntary Emissions Return was lodged in 2016 or 2017.*

#### 8.2 Post-1989 forest land

Post-1989 forestry participants had until 30 June 2018 to complete the Mandatory Emissions Return (MER) for the 2013 to 2017 period.

<https://www.teururakau.govt.nz/growing-and-harvesting/forestry/forestry-in-the-emissions-trading-scheme/emissions-returns/>

The WDC was not able to supply the author with a copy of this return (at the time of writing). However, assuming a MER was submitted, it can be assumed the WDC has subsequently received another 12,662 NZU's.

The fact that the WDC elected to register 99.8 hectares in the ETS as opposed to 100.0 hectares is worthy of investigation (despite recoding 103.3 hectares of forest on the Waihao property).

Participants with 100 hectares or more of registered Post-1989 forest land "at any time during a mandatory emissions return period" are required to use a Field Measurement Approach (FMA) to calculate the change in carbon stock.

Participants are now reporting that the Field Measurement Approach is producing as much as 50% more carbon than the standard lookup tables. A potential value gain of \$250,000.

#### 8.3 Carbon Asset Value

The current market value of the Carbon held by the WDC is ~\$567,475.

Source of Carbon	Hectares	NZU's	Comment
Pre-1990 Carbon	41	2,460	This is a one-off allocation.
Post-1989 Forest Land	99.7	7,577	Period 1 Jan 2008 to 31 Dec 2012
		12,662	Period 1 Jan 2013 to 31 Dec 2017 - To age 22yrs
<b>Total NZU's held by WDC</b>		<b>22,699</b>	
Spot Price (24 Sept 2018)		\$ 25.00	\$/NZU
<b>Market Value</b>		<b>\$ 567,475</b>	

Carbon units can be purchased or sold at any time.

Many Post-1989 foresters with a single stand of trees (e.g. the 103.3 ha Waihao forest) hold onto their carbon units until they determine precisely the carbon liability arising on harvest or as a precaution in the event the forest is destroyed by fire. The WDC holds \$505,975 of NZUs in this category.

For Pre-1990 foresters, the only liability arising from the ETS is the requirement to maintain the land as forest land. The WDC holds \$61,500 of NZU's in this category. This is an immediate source of cash.

#### 8.4 Account Holders

The author was not able to confirm that the WDC Carbon Registry Account (NZ-5104) held 22,699 NZUs at the time of writing.

This is because the WDC does not currently have a staff member registered with the Registry to replace the current Account Representatives (refer below):

Account number	Account Holder	Status	Kyoto account type	NZ account Type	Commitment period	Date opened	Account representatives
NZ-5104	Waimate District Council	Active	Party Holding Account	Customer Holding Account		29/06/2011	Allan Cecil Laurie Graham Henry Durston

#### 8.5 Carbon Recommendations

It is recommended the WDC:

- authorise two Staff members (one from the Finance Team) to become Account Representatives of the WDC NZETR Account NZ-5104 (to replace the current Account Representatives);
- appoint a carbon forestry specialist to manage the WDC's ETS compliance;
- engage the carbon forestry specialist in 2018 to investigate how to optimise the carbon and forestry returns of the Waihao forestry block. (refer specific recommendations for the Waihao forest above);
- Make a commercial decision on when to sell the Carbon Credits and how many (noting that the Government is currently consulting on lifting the \$25 cap on NZU's as soon as 2019);

Note: Carbon Trading can be conducted efficiently through OM Financial Limited.  
<https://www.comtrade.co.nz/>

END

10.3	ORARI-TEMUKA-OPIHI-PAREORA ADDENDUM	ZONE	IMPLEMENTATION	PROGRAMME
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**Author:** Karalyn Reid, Committee Secretary and PA to the Mayor

**Authoriser:** Tina Stevenson, Corporate Services Manager

**Attachments:** 1. ECan Report - ZIPA [↓](#)  
2. OTOP ZIPA [↓](#)

### PURPOSE

1. The Orari-Temuka-Orari-Pareora (OTOP) Zone Committee have recently adopted an “Addendum” to the Zone Implementation Programme (ZIP) for the Zone.
2. The Environmental Services and Finance Committee are asked to receive the ‘Addendum’ (ZIPA).

### BACKGROUND

3. The Orari-Temuka-Orari-Pareora (OTOP) Zone Committee have been working with the community over the past 8 years to deliver on the Canterbury Water Management Strategy.
4. For the last two-year period the work of the committee has been focussed on developing a Zone Implementation Programme Addendum (ZIPA) which makes statutory and non-statutory recommendations to District and Regional Councils to address water quality and quantity issues, protect sites of cultural significance, and to protect and enhance biodiversity in the Zone.
5. Council’s representative on the OTOP Committee, Cr David Anderson, has been keeping Council updated on the ZIPA process and if available, may be able to answer any questions.
6. Further details are included in the attached Environment Canterbury (ECan) report.

### PROPOSAL

7. That Council receive the ZIPA for the OTOP Zone Committee.

### ASSESSMENT OF SIGNIFICANCE

8. This matter is not deemed significant under Council’s Significance and Engagement Policy.

### FINANCIAL

9. There are no known budget implications.

### Cost-effectiveness

10. Cost-effectiveness consideration is not applicable.

### RECOMMENDATION

1. That the Orari-Temuka-Opihi Pareora Zone Implementation Programme Addendum report be accepted; and
2. That the Environmental Services and Finance Committee receives the Orari-Temuka-Opihi Pareora Zone Implementation Programme Addendum



AGENDA ITEM NO: X		SUBJECT MATTER: ORARI-TEMUKA-ORARI-PAREORA ZONE IMPLEMENTATION PROGRAMME ADDENDUM	
REPORT:	Orari-Temuka-Orari-Pareora Zone Committee Update	DATE OF MEETING:	
REPORT BY:		Orari-Temuka-Orari-Pareora Zone Committee	

**PURPOSE**

1. The Orari-Temuka-Orari-Pareora (OTOP) Zone Committee (ZC) have recently adopted an "Addendum" to the Zone Implementation Programme (ZIP) for the Zone. The ZC ask that the Council receives the 'Addendum' (ZIPA).
2. The Council's representatives on the committee may provide a summary of their recommendations at the meeting.

**BACKGROUND**

3. The Orari-Temuka-Orari-Pareora (OTOP) Zone Committee (ZC) have been working with the community over the past 8 years to deliver on the Canterbury Water Management Strategy. For the last two-year period the work of the committee has been focussed on developing a Zone Implementation Programme Addendum (ZIPA) which makes statutory and non-statutory recommendations to District and Regional Councils to address water quality and quantity issues, protect sites of cultural significance, and to protect and enhance biodiversity in the Zone.
4. Two of the key drivers for developing a ZIPA are to implement the vision and principles of the Canterbury Water Management Strategy, and to ensure there is a regulatory framework for the zone that complies with the requirements of the National Policy Statement for Freshwater Management 2017.
5. Feedback from the community has been received by the ZC on two occasions in February and October this year and the recommendations have been moderated by the ZC in response to this feedback.
6. The OTOP ZC adopted its final ZIPA at a public meeting on 26 November 2018. The final ZIPA is attached as Appendix One.

**ZIPA CONTENT**

7. Over a two-year period, the OTOP ZC has engaged in a collaborative process to identify the key water quality, quantity, cultural and biodiversity issues within the Zone that should be addressed through a statutory plan change, and through non-statutory measures, such as immediate steps funding for biodiversity priority areas. The key issues addressed by the ZC were:
  - Protecting sites of cultural importance, including tuhituhi neherā (rock art) sites and waipuna (springs);

- Protecting and enhancing mahinga kai;
- Protecting and enhancing biodiversity;
- Managing forestry to maintain water yield;
- The need for water quality limits across the zone, and water quality targets in three areas in the zone that require targeted nitrogen reductions to meet water quality outcomes for drinking water and ecosystem health;
- The need for farms to be Farming at Good Management Practice (GMP);
- The need for water quantity limits, particularly minimum flows in the Opihi and Temuka catchments.

**NEXT STEPS**

8. Environment Canterbury will be notifying a plan change to the Canterbury Land and Water Regional Plan in mid-2019 to give effect to recommendations targeted at the Regional Council.
9. Recommendations that relate solely to District Councils relate to further protection and enhancement of biodiversity (particularly in the upper catchments) and sites of cultural significance when district councils are reviewing or amending their district plans.
10. The ZIPA will be presented to Waimate District Council on 4 December 2018, Mackenzie and Timaru District Council's on 11 December 2018, and Environment Canterbury on 13 December 2018.
11. In adopting its final ZIPA, the ZC have recommended that it remains embargoed until 14 December 2018, or until all councils have received the recommendations contained in the ZIPA.

**RECOMMENDATION**

12. That the Council note the update in this paper.
13. That the Council receives the ZIPA for the Orari-Temuka-Orari-Pareora Zone attached as Appendix One.

Appendix 1 – Zone Implementation Programme Addendum for the Orari-Temuka-Orari-Pareora Zone – Embargoed until 14 December 2018 or until all councils have received the committee's recommendations

Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum

# **Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum**

EMBARGOED

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Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum

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Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum

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Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum

Orari-Temuka-Opihi-Pareora Zone Committee

The Orari-Temuka-Opihi-Pareora Water Zone Committee is a joint committee of the Timaru, Mackenzie and Waimate District Councils and Environment Canterbury. The Committee is made up of residents – the members who contributed to the ZIPA are:

John Talbot (Former Chairman)

Hamish McFarlane (Chairman)

Herstall Ulrich (Deputy Chairman)

Phil Driver

Kylee Galbraith

Ivon Hurst

James Pearse

Ad Sintenie

Glen Smith

Mark Webb

Mandy Home – Te Rūnanga o Arowhenua representative

John Henry – Te Rūnanga o Arowhenua representative

Sue Eddington – Te Rūnanga o Waihao representative

Richard Lyon – Councillor, Timaru District Council

Anne Munro – Councillor, Mackenzie District Council

David Anderson – Councillor, Waimate District Council

With support from:

Technical support has been led by the planning and science sections of Environment Canterbury, with support from Timaru, Mackenzie and Waimate District Council staff.

Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum

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Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum

## 1.0 Purpose

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This document is an “Addendum” to the Zone Implementation Programme (ZIP) developed by the Orari-Temuka-Opihi-Pareora (OTOP) Zone Committee. The Zone Committee is a partnership between Papatipu Rūnanga (Te Rūnanga o Arowhenua) Canterbury Regional Council (Environment Canterbury) and Timaru, Mackenzie and Waimate District Councils. In addition, its membership includes community members from the local urban and rural communities.

This document contains statutory and non-statutory recommendations to contribute to the sustainable management of freshwater resources in the OTOP Zone and contains recommendations to protect and enhance cultural values and biodiversity in the zone.

The Zone Committee is focused on collaboration and has sought to reach decisions by consensus. However, in developing these recommendations, the zone committee hasn't always been able to agree and where consensus could not be reached, it has been noted.

Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum

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## 2.0 Background

### 2.1 Zone Description

The OTOP zone is bordered by the Rangitata River in the north and the Pareora River in the south, the Pacific Ocean in the east and inland towards the Main Divide in the west. It includes the Orari, Temuka, Opihi, Opuha, Te Ana Wai, and Pareora Rivers and their tributaries, Lake Opuha and the Opuha Dam. The OTOP Healthy Catchment Project boundary covers most of the OTOP zone but excludes the hill fed tributaries which feed directly into the Rangitata River (Map 1).

The zone lies within the rohe of Te Rūnanga o Ngāi Tahu, and the takiwā of Te Rūnanga O Arowhenua and Te Rūnanga o Waihao. All waterbodies in the zone are of cultural, spiritual and historical significance to Ngāi Tahu; they are considered taonga, or treasure, left by the ancestors to sustain life. Water as a resource is viewed holistically according to the principle of *ki uta ki tai* (from the mountains to the sea) and as such must be managed in an integrated and collaborative way, acknowledging the connections between water quality and water quantity, precipitation, surface water, ground water, land use and the coast.

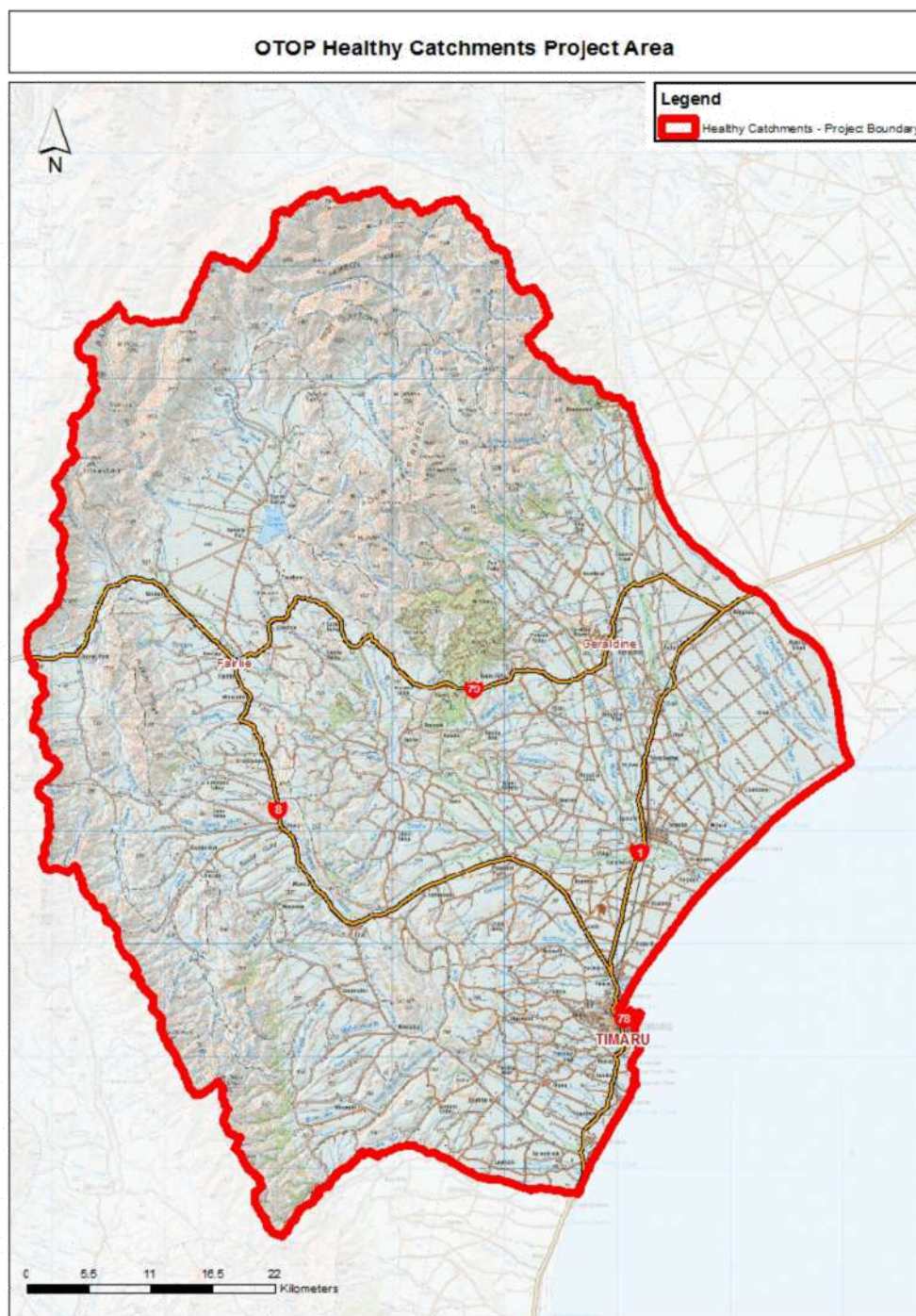
The recommendations in this addendum are for the area encompassed by Section 14 of the Canterbury Land and Water Regional Plan (LWRP). During the community phase of the development of recommendations the term "OTOP Healthy Catchment Project area" was used. The OTOP Healthy Catchments Project area was extended beyond the Section 14 area to include Lyalldale and Springbrook at the south of the Zone and extended to the Rangitata River in the north of the Zone.

### 2.2 Zone Implementation Programme

Developed in 2012, the ZIP gave voice to the direction and intent of the Zone Committee to develop a local strategy for the management of water resources within the OTOP zone. This addendum builds on that initial work. With leadership from the Committee, much non-statutory work has already been undertaken in the zone. This includes the introduction of Catchment Groups, with support from Landcare Trust and the Sustainable Farming Fund, and the development of the Waitarakao/Washdyke Task Force, which arose due to the Committee's desire to address the complex issues in this important waterbody.

The recommendations set out in this addendum are an integrated package, developed in collaboration with Papatipu Rūnanga, the community and other stakeholders, and with technical input from Environment Canterbury. The collaborative process has included workshops, community meetings and field trips, along with many presentations to the Zone Committee from stakeholders and other interested parties. The ZIP, and the technical information informing the recommendations in this addendum, are available at [www.ecan.govt.nz](http://www.ecan.govt.nz).

Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum



Map 1: Orari-Temuka-Opihi-Pareora Healthy Catchments Project Area



## 2.3 Collaboration

### Catchment Groups

Following development of the ZIP, further community input and ownership of water management were recognised as key to success within the zone. The Committee felt that catchment groups could provide a vehicle for this, and worked with NZ Landcare Trust, who led their establishment and coordination with a grant from the Sustainable Farming Fund. The role of the catchment groups is to undertake and support sustainable land and water management in their area. Their broad objectives are to encourage environmental stewardship, support and sustain resilient catchments, and to work towards a positive future for those that work and play here. Membership of catchment groups covers a wide range of interests, including recreation, agriculture and the environment, with many members having interests in more than one of these areas.

There are now eight catchment groups in the OTOP zone, and they have played a key role in the Healthy Catchments Project, working with the Committee and supported by industry. Catchment groups presented to the Committee on the key issues and their recommendations for each of their catchments. These presentations are available at [www.ecan.govt.nz](http://www.ecan.govt.nz). The Committee acknowledge and appreciate the contribution of the catchment groups and recognise their role in developing this ZIP addendum.

### Farmer Reference Group

A Farmers' Reference Group was established in mid-2017 to support Zone Committee solution seeking on options to reduce contaminant loss from farm. The Group has a membership of lead farmers, zone committee members and industry representatives. It has provided robust investigation into the costs and benefits of mitigations to further reduce nitrogen losses, beyond those expected from the adoption of Good Management Practice. The Group has provided valuable information that will continue to be used in future decision-making. The Committee recognise this, and welcome further input from the Group along with their contribution to economic assessment within the zone.

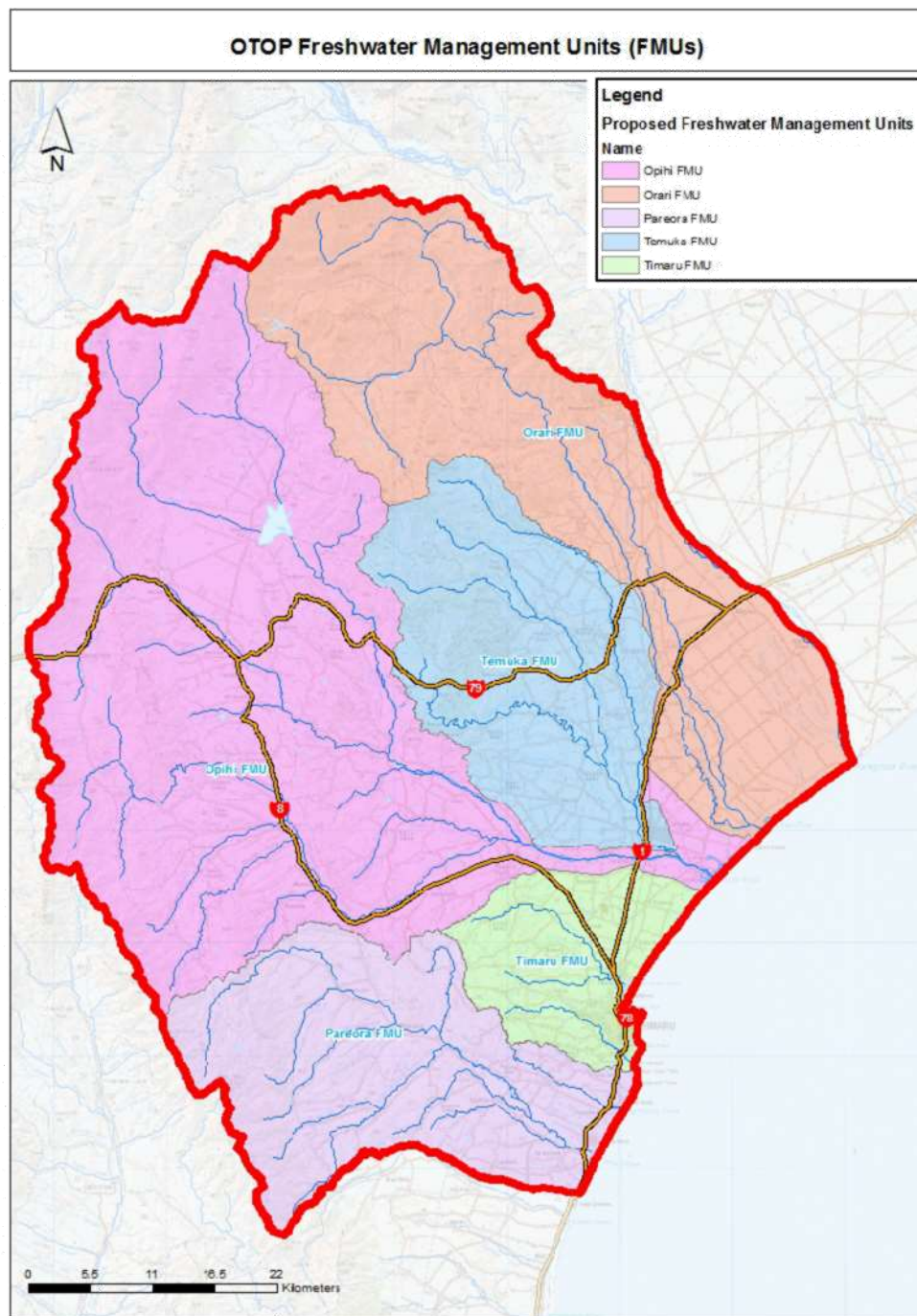
## 2.4 Drivers for Change

### National Policy Statement for Freshwater Management 2017

The National Policy Statement for Freshwater Management 2017 (NPS-FM) sets the direction for freshwater quality and quantity management in New Zealand. Regional councils are obligated under the Resource Management Act 1991 (RMA) to give effect to the requirements of the NPS-FM when developing statutory plans and plan changes. The NPS-FM requires freshwater quality to be maintained (where it is of good quality) or improved over time (where it does not meet the requirements of the NPS-FM), and includes a national objectives framework for achieving this. The NPS-FM also requires engagement with iwi, hapū, and community in setting freshwater outcomes, and is enabling of different methods and

Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum

timeframes being set. It is on this basis that the freshwater outcomes and timeframes in the recommendations have been made by the Committee.



Map 2: Orari-Temuka-Opihi-Pareora Freshwater Management Units

## Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum

**Freshwater Management Units (FMUs)**

The NPS-FM requires the establishment of Freshwater Management Units (FMU's) in regional plans. FMU's may encompass either single or multiple freshwater bodies and must be set at an appropriate spatial scale for setting freshwater outcomes and limits for managing water quality and quantity (discussed below).

The Zone Committee considered three options for setting FMU's ranging from two broad FMU's through to dividing the zone up into 15 FMU's. The Zone Committee have recommended six FMUs (Map 2) comprising:

- The Orari River and its tributaries;
- The Temuka River and its tributaries;
- The Opihi River and its tributaries;
- The Timaru FMU, including all urban waterways, and the Washdyke Lagoon.
- The Pareora River and its tributaries and the small coastal streams and lagoons between Saltwater Creek and the Pareora River, and Lyalldale and Springbrook Creek;
- A single Groundwater FMU encompassing all Groundwater Allocation Zones in the zone:
  - Rangitata Orton;
  - Orari Opihi;
  - Levels Plains;
  - Fairlie;
  - Timaru;
  - Upper Pareora;
  - Pareora.

Within this addendum there are recommendations made at a zone-wide level, followed by FMU specific recommendations.

**Water Quality Under the NPS-FM**

The NPS-FM requires key values and optional values to be identified for each FMU, and for freshwater objectives to be developed for the key values. There are two national compulsory values; ecosystem health and human health for recreation, which must be included in the key values. For these the NPS-FM includes key attributes with numeric thresholds that define "Attribute State" conditions (Figure 1). For national compulsory values, freshwater objectives are required to be set at or above the "national bottom line". Where the key attributes with numeric thresholds are below national bottom lines, water quality must be improved to at least the national bottom line, or better, over time. National bottom lines are not standards that should be aimed for.



Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum

The NPS-FM also sets an objective that requires water quality to be maintained or improved. Maintenance of water quality means that for attributes defined in the NPS-FM, water quality objectives are set at least within the same attribute state as existing freshwater quality, or for other values, will not be worse off when compared to existing freshwater quality.

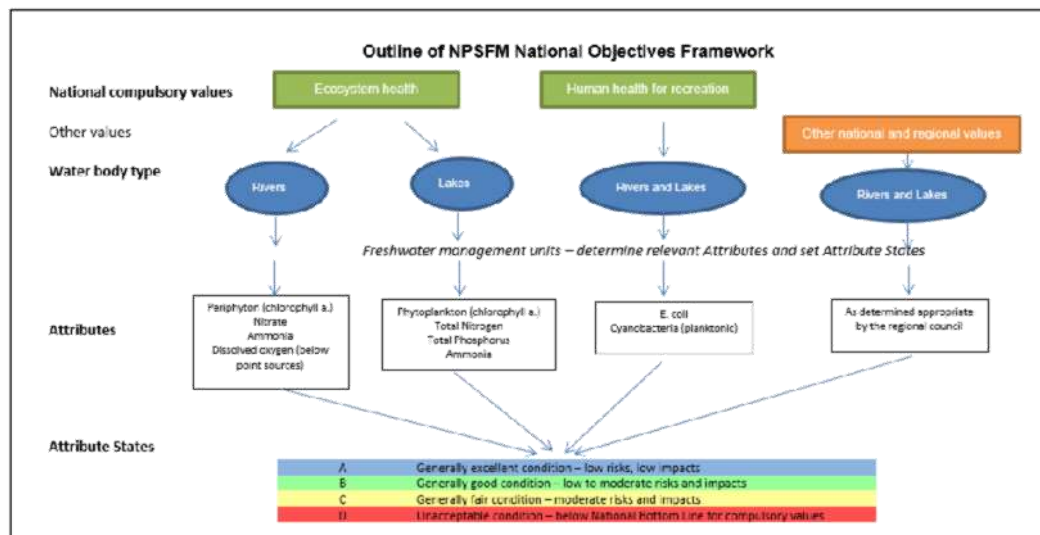


Figure 1: Outline of NPS-FM National Objectives Framework

### Water Quantity under the NPS-FM

The NPS-FM requires that for each FMU, environmental flows are set (which much include a minimum flow), over-allocation of freshwater resources be avoided through the setting of allocation limits, and existing over-allocation be phased out over a defined timeframe.

### Mātaaitai

Mātaaitai reserves can be declared under the Fisheries (Kaimoana Customary Fishing) Regulations 1998 or the Fisheries (South Island Customary Fishing) Regulations 1999 on application by tangata whenua. A mātaaitai identifies an area that is a place of importance for customary food gathering and allows for the area to be managed by tangata tiaki/kaitiaki nominated by the tangata whenua.

Once a mātaaitai reserve is established, commercial fishing is not allowed unless recommended by the tangata tiaki/kaitiaki. A tangata tiaki/kaitiaki can recommend bylaws to assist with the sustainable management of fisheries resources in the mātaaitai. These bylaws must be approved by the Minister of Fisheries and must apply generally to all individuals.

There are currently two fresh water mātaaitai reserves within the OTOP zone (Map 3). The Opihi Mātaaitai Reserve extends from the Opihi Lagoon up the Opihi River to a point to the south of Pearse Road, and includes the adjoining creeks, streams and tributaries of the Opihi River. The Waitarakao Mātaaitai Reserve includes the Waitarakao/Washdyke Lagoon and all



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streams and tributaries that flow into the lagoon, east of the railway line, and the Seadown Drain.



Map 3: Opihi and Waitarakao Mātaihai Reserves

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**Canterbury Water Management Strategy**

The [Canterbury Water Management Strategy](#) was developed in 2009. It provides a new way of working collaboratively to manage precious freshwater resources in the Canterbury region. The overarching vision of the strategy is *'to gain the greatest cultural, economic, environmental, recreational and social benefits from our water resources within a sustainable framework both now and for future generations'*. The strategy prioritises the environment, customary use, community supply and stockwater, and aims to realise its vision by achieving these ten broad targets:

- *Environmental limits*
- *Ecosystem health and biodiversity*
- *Natural character of braided rivers*
- *Kaitiakitanga*
- *Drinking water*
- *Recreational and amenity opportunities*
- *Water-use efficiency*
- *Irrigated land area*
- *Energy security and efficiency*
- *Indicators of regional and national economies*

To deliver on these targets, the Zone Committee first completed a Zone Implementation Programme (ZIP) and has now developed a more specific programme for the zone. This Addendum to the ZIP provides recommendations and direction to Environment Canterbury and district councils as they develop their work programme, budgets and planning frameworks. It has been developed in collaboration with the community, and part of this has been the Zone Committee-led Healthy Catchments Project, designed to encourage community input into achieving better outcomes for managing freshwater in the OTOP zone.

To develop the most appropriate management strategies for a catchment, the people living there need to be involved in finding workable solutions. This document is therefore the result of community consultation, including public workshops, field trips and meetings, along with scientific investigation and technical support. It presents general solutions for the whole zone, and some which are catchment specific.

**Community Outcomes**

The aim of the OTOP Healthy Catchments Project is to develop a package of freshwater management solutions which best deliver community outcomes (environmental, cultural, economic and social). The OTOP Zone Committee, with input from Papatipu Rūnanga and community, developed the following outcomes to reflect community and Papatipu Rūnanga aspirations:



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- *Protect and enhance the natural character and function of the zone's rivers, waterways and lake whilst providing a sufficient level of flood protection.*
- *Safe and reliable drinking water for community and domestic supplies both now and in the future.*
- *All surface waterbodies safe for recreation and gathering mahinga kai.*
- *Increase recreational opportunities in the zone by ensuring appropriate management of river flows.*
- *Rectify loss and improve opportunities for mahinga kai gathering in the zone.*
- *Protect and enhance sites of cultural significance.*
- *Protect and enhance indigenous biodiversity Ki uta Ki Tai, particularly high naturalness areas, coastal lagoons, and wetlands and springs in the upper parts of catchments.*
- *Maintain or increase the reliability of water available for industry and irrigation in the zone.*
- *Maintain or increase the area of land irrigated in the zone.*
- *Maintain and improve economic value in the zone and provide for community wellbeing.*

These community outcomes are based on the Canterbury Water Management Strategy, Strategic Framework (2009).

The integrated package of local recommendations contained in this ZIP Addendum aims to work towards all the community outcomes *together*, rather than one outcome in isolation of others.

## 2.5 Pathways for Change

The major pathways for implementing the recommendations in this addendum are a plan change to the Orari-Opihi-Pareora sub-region section (Section 14) of the [Canterbury Land and Water Regional Plan](#) (LWRP) and through the Zone Implementation Programme, where priority areas can be identified and targeted non-statutory actions undertaken. District councils are also encouraged to consider the content of this document when they are preparing work programmes and budgets and developing plan changes or reviewing existing plans. While driven by community outcomes, the development of this document has also been guided by policy at a national, regional and local level.

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### 3.0 Current State of the OTOP Zone

#### History of the Area

Against the backdrop of the Two Thumb Range, the wedge-shaped area between the Rangitata and Pareora Rivers stretches towards the East Coast across rolling hills, flattening into plains as it nears the coast. This fertile area was originally home to podocarp forest, until flax, fern, tussock and cabbage trees became the predominant flora; wetlands were common, supporting diverse species. The area provided well for its inhabitants – wetland and other birds, flounder, shellfish, eels and lamprey were gathered and supplemented with plants, such as kāuru, a staple made by baking young cabbage tree (tī kōuka) roots in an oven (umu tī).

As European settlers arrived and began to farm the area, much of the indigenous flora and fauna disappeared, and there are now only small remnants of these. In the upper catchments, native tussock grasslands remain, providing clean runoff water that plays an important part in catchment water balance. Prior to this settlement, the zone had large areas of wetlands, however 95% of these were drained to allow for farming on the flat land near the coast.

#### Biodiversity

Even though there are now fewer wetland areas, those that remain have high values, providing important habitat for native fish, invertebrates, plants and birds. Wetlands also provide spawning habitats for fish, many of which have statutory recognition as toanga species, including flounder/pātiki, mullet and inanga (one of the species which makes up the whitebait catch). The health of wetlands and coastal lagoons is important for migratory fish and birds, which pass through them on their journey around the country and the world. The community have been clear that protecting and enhancing these vulnerable areas is important, and many of the recommendations relating to water quality and water quantity aim to meet this expectation.

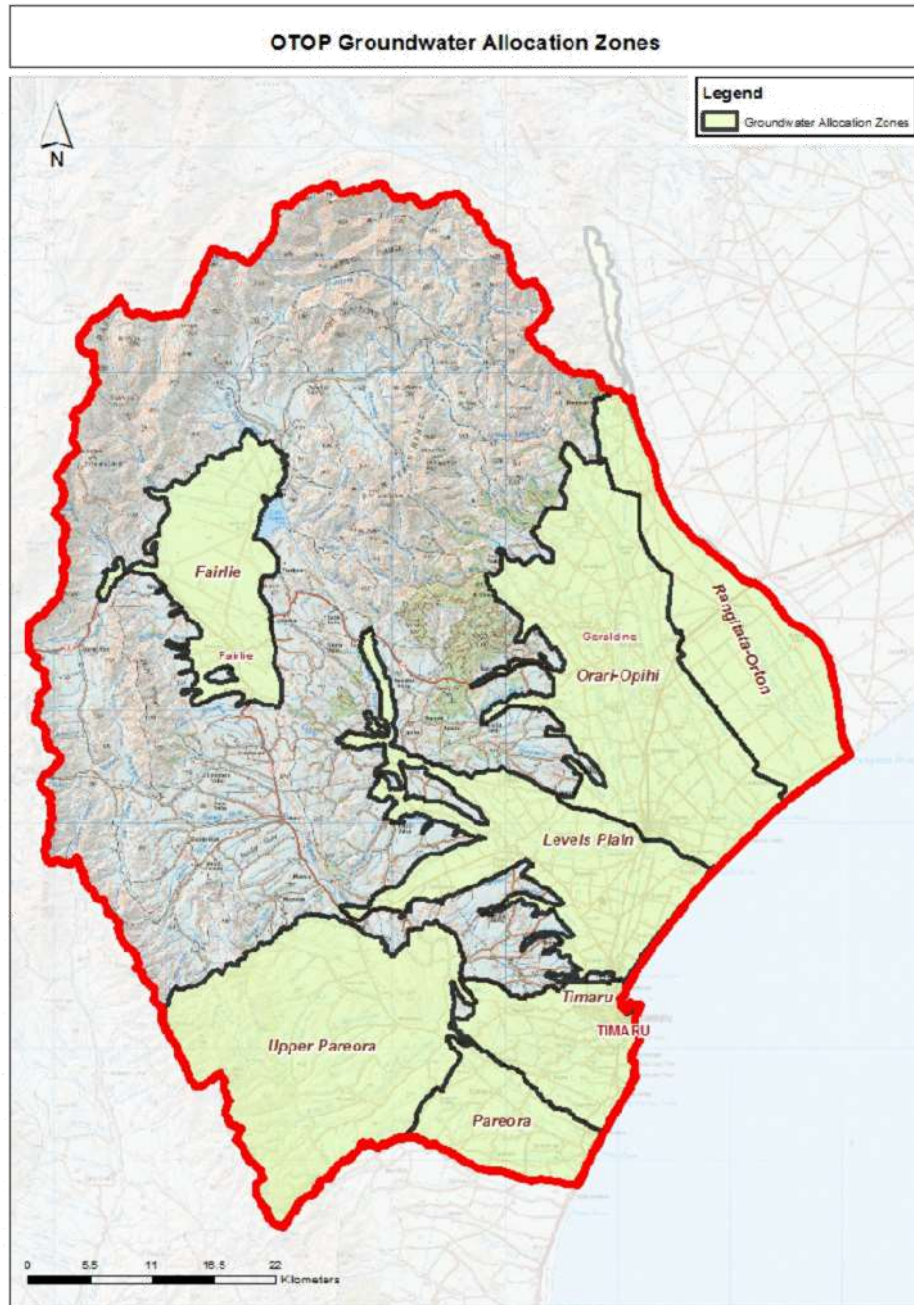
Along with the wetlands, the hill-fed braided rivers in the zone provide important habitat for native species. Movement of gravels by floods and freshes is required to ensure these ecosystems maintain their dynamic, constantly-moving habitat. When freshes are reduced, due to over-abstraction or reduced input, rivers are affected by encroaching weed growth, which stabilises the islands and provides cover for predators which then feed on the native birds. The remaining un-modified parts of the zone provide an important refuge for bats, lizards, birds and other native species, and the Committee have supported a number of Immediate Steps restoration projects, such as fencing and planting, to protect them from further degradation and to ensure that biodiversity is woven through the working lands of the zone.

#### Land Use and Irrigation

As agriculture spread throughout the area sheep and cropping farms dominated a landscape made fertile with border-dyke or flood irrigation. Sheep and mixed sheep and beef farming still cover over half of the total area, dominating the hills and downlands. Significant numbers of deer farms are found throughout the catchments, often in mixed farming systems with other stock types. In recent years the area has experienced similar changes as elsewhere in

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Canterbury. Conversion of large areas of flat land to dairy farming has not only increased the economic viability of the area, it has also increased irrigation in the zone, which recently reached approximately 54,000 hectares of irrigated land. Spray irrigation, with over half using pivot irrigators, is a common sight in the South Canterbury landscape.



Map 4: Orari-Temuka-Opihi-Pareora Groundwater Allocation Zones



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**Allocation and Water Use**

Consented allocation of both surface water and groundwater within the zone has increased since the late 1980s to meet demand, with a rapid increase in the 2000s. In recent years consented allocations have plateaued as some allocations have become full and other remaining allocation may not have sufficient reliability. Of the seven groundwater allocation zones in the OTOP zone (Map 4) three are considered over-allocated, two are near full allocation and only the Fairlie and Timaru allocation zones have appreciable allocation remaining. Geological constraints in these areas may prevent full allocation from being realised.

Water usage data indicates that less than the consented allocation is used within any season. This data also shows that compared to surface water takes a greater proportion of the allocated volume of groundwater takes is used. This is likely to be the result of low flows in peak irrigation season resulting in surface water takes being restricted.

**Hydrology and Water Quality**

The hydrology of the area is complex, with surface water and groundwater interacting which causes losses and gains within the waterbodies as the rivers flow towards the ocean. This interaction makes water management in the zone a challenging task, particularly when combined with increasing irrigation demands and a changing climate.

Groundwater levels generally follow climate variability, although there are some trends that can be seen in the monitoring data, including decreasing groundwater levels. This can be seen in areas adjacent to rivers with reduced flows, and in Levels Plains, where conversion from border-dyke to spray irrigation has reduced recharge. In the Rangitata-Orton area, increasing groundwater levels have been attributed to recharge from losses from the Rangitata South Irrigation Scheme.

The quality of groundwater is influenced by geology, depth, land use and recharge sources. Recharge from land surface in areas of intensive land use causes elevated nitrate concentrations, as can be seen in Fairlie Basin, Levels Plains and Rangitata-Orton. These areas have been identified as hotspots and have been noted by the Committee as priority areas for mitigation. Groundwater that is primarily sourced from river recharge generally has lower nitrate concentrations than groundwater sourced from land surface recharge.

Surface water quality varies throughout the area, high-quality water emerges from the upper hill catchments and it declines as it moves towards the sea. Some of the lowland streams near the coast show high levels of sediment, nutrients and faecal indicator bacteria, which affects their values for mahinga kai, recreation, and as a safe habitat for flora and fauna.

Flows in the zone are typical for hill-fed rivers in Canterbury, often water is lost as rivers cross the gravel plains towards the coast. Many of the rivers have dry reaches in the mid plains which can be exacerbated by abstraction. Along with these dry reaches, low flows are thought to increase the risk of algal blooms, some of which can be toxic. *Phormidium* is an example of this, and while still being researched, blooms appear to be most common in low, stable flows

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with moderate to high nutrient levels. The presence of algal blooms affects the community in many ways, preventing mahinga kai, and affecting swimming and other recreational activities.

The largest waterbody in the zone is Lake Opuha, providing irrigation water to approximately 16,000 ha of land and formed by the construction of the Opuha dam in 1998. The flows from the dam are regulated by Opuha Water Limited in accordance with the Opihi River Regional Plan (ORRP). The Opuha Environmental Flow Release Advisory Group (OEFrag) provides advice on how flows can be managed to protect the river environment below the dam while providing water for irrigators. The lake is very important as a water source for agriculture. This, coupled with its popularity as a recreational site for swimming, boating and fishing, has made it a vital component in this package of water management solutions. Opuha Water Limited continues to be involved in ongoing research into the best way to manage water in the catchment to provide both economic and environmental outcomes.

### The Recommendations

The Committee have expressed a desire to both protect the environment and enable economic growth, and the following package of recommendations aim to do this. The Committee recognise that preventing further degradation is essential, and that change will take time. Reasonable timeframes have been recommended, and many recommendations involve staged changes over time to manage the impact while still making progress in the right direction. The recommendations are the result of collaboration with many interested parties including industry, catchment groups, and the community.

### 3.1 Key Questions

The recommendations in this addendum address the following key questions for the OTOP Zone:

- How best can all remnant wetlands be retained as viable ecosystems and protected?
- How should land use intensification be managed to achieve environmental outcomes and a continuation of economic growth in the zone?
- How much of the water in a catchment should be available for abstraction and in over-allocated catchments, how can water allocation be reduced?
- How should groundwater be managed to ensure that groundwater levels are at least maintained at their current levels?
- What measures should be used to prevent further deterioration in water quality and, where water quality is already not meeting environmental outcomes, how should improvement be achieved?
- How should contributing sources of contaminants be managed so that further deterioration in water quality is prevented and improvement in water quality is achieved?
- How can industry contribute to an overall reduction in nutrient loads in the catchment, and over what time period should reductions in nutrient loss occur?

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- How should the tension between the zone being 'water short' and the fact that many areas have poor reliability of supply (particularly in recent dry years) be resolved?
- What water allocation regime best resolves the tension between cultural values, ecological values and abstraction values?
- How should the on-going loss of biodiversity be halted, and the distribution and diversity of indigenous species improved?
- How do we better manage (and improve) the quantity and quality of water in our rivers to provide for recreational, cultural, ecological, and community uses?

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## 4.0 Zone-Wide Recommendations

### 4.1 Catchment Groups

The Committee acknowledge and appreciate the contribution of the catchment groups, and recognise their role informing the content of this addendum.

#### 4.1.1 Recommendation: Support Catchment Groups

Regional Council and industry support Catchment Groups in the OTOP Zone, where they are working to address catchment specific issues.

### 4.2 Drinking Water Supplies

#### Community Drinking Water Supplies

The provision of clean, safe drinking water is a first order priority for all CWMS partners. Community drinking water supplies in the OTOP zone are sourced from the Pareora and Opihi rivers, and shallow groundwater. Most water abstracted for community drinking water in the zone is currently treated for water borne pathogens. Many rural properties have their own private water supply that may be sourced from rivers and streams, groundwater and rainwater collection systems. These supplies are generally not part of routine monitoring programmes and are likely to have variable quality. It is important that private water supply owners understand risks to their supplies and have access to useful information about monitoring and managing them.

The water quality outcomes for drinking water values are to be applicable to groundwater as the community have signalled that this is a valuable drinking water source and should be protected. The recommendations for groundwater nitrates are based on the Maximum Allowable Value (MAV) for nitrate nitrogen of 11.3 mg/L in accordance with the Drinking Water Standards for New Zealand 2008. The recommendations state that average groundwater nitrates should not exceed half the MAV (5.65 mg/L), on the basis that groundwater nitrate concentrations are seasonally variable and by setting outcomes at half the MAV, this will reduce the risk of exceeding the MAV in any one bore to 10%.

The recommendations also set a target to achieve the LWRP Schedule 8 groundwater limit for *Escherichia coli* (*E. coli*) concentrations. The LWRP requires that on a per well basis 95% of samples do not exceed a limit of <1 organism per 100 ml. Council's monitoring is undertaken at its nominated monitoring wells which are considered to be representative.

Information about the current state of groundwater quality was presented to the zone committee during workshops, this was based on a network of monitoring wells (shallow wells <20m deep). These wells are generally representative of the shallow groundwater, although a desire for improvements to the representativeness of the monitoring network was identified. Based on this analysis, the Levels Plains, Rangitata Orton and Fairlie Basin were identified as nitrate hotspots where the average nitrate nitrogen concentrations across a number of monitoring wells is above half MAV. In other areas, average nitrate concentrations across the

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wells falls below half MAV, although samples from individual wells may occasionally show higher concentrations.

Based on the analysis of all groundwater data for the OTOP zone, half the wells that have been sampled have had a positive *E. coli* result (i.e. >1 organism per 100 ml). Of the samples that have had positive results and that have been sampled frequently, about 10% of the wells yielded over 5% of the samples with >1 *E. coli*/100 ml. This means that groundwater quality in the OTOP zone does not currently meet the LWRP Schedule 8 limit for *E. coli*. Based on the data available, it will require significant improvements in both practices on the land and appropriate protection around well heads to achieve the LWRP Schedule 8 limits for *E. coli*.

**Private Supplies**

To provide protection for private drinking water supplies the Committee recommends that in instances where monitoring identifies that there is an exceedance of allowable nitrate nitrogen in private bores, appropriate action should be initiated. This action should include, but not be limited to, identification of the source of the contamination, consideration of surrounding land use consent conditions (to identify if there has been non-compliance) and consideration of the consequences of any permitted land use activity.

**Community Drinking Water Supply Zones**

The identification and management of community drinking water protection zones (CDWPZ) is one of the interventions to provide safe drinking water to the community. The LWRP contains a methodology for calculating provisional CDWPZs for community drinking water supply abstractions. These are the starting point for managing potential contaminant risks to sources of community drinking water. There are 32 identified CDWPZs in the OTOP zone. Members of the community and the district councils in the zone have raised concerns regarding the risks associated with the CDWPZs. The recommendations below aim to address these concerns through further regulation and the setting of limits for contaminants.

**Community Drinking Water Supply Abstractions**

The Committee also acknowledge the first order priority of existing and future community drinking water supplies in the zone. Two of the current major abstractions for community drinking water in the zone are subject to minimum flow restrictions<sup>1</sup> in the Pareora and Opihi rivers. It is the view of the Committee that these abstractions should not be subject to these restrictions, but that they should be managed through a Water Supply Strategy that includes methods to reduce the demand for water in the supply area during times of low flow. This mechanism should also apply to any future abstractions of community drinking water in the zone and provides consistency across the Region.

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<sup>1</sup> Minimum flow is a flow trigger level at which abstractions must cease; partial restrictions also apply above these levels.



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**4.2.1 Recommendation: Water Quality Outcomes for Groundwater**

- I. Nitrate nitrogen concentrations in groundwater within each FMU, excluding the hot spot areas of Rangitata Orton, Levels Plain and the Fairlie Basin, shall not exceed 5.65 mg/l as an annual average, which is half the Maximum Acceptable Value of 11.3mg/l.
- II. Where an individual drinking water supply bore exceeds a nitrate nitrogen concentration value of 11.3mg/l in any sample, an investigation will be undertaken to identify the source of the contamination and remedial action taken as appropriate.
- III. Within five years of the OTOP sub-region plan change becoming operative, *E. coli* in groundwater shall not exceed the limit in the Land and Water Regional Plan<sup>2</sup>.
- IV. Where groundwater quality is currently better than these outcomes, there shall be no deterioration of that water quality.

**4.2.2 Recommendation: Community Drinking Water Supply Protection Zones**

Regional council and district councils respond to the Stage 2 report of the Government Inquiry into Havelock North Drinking Water by making appropriate provision in their plans and by-laws and/or their work programmes to achieve any improvements required to the protection of community drinking water supplies.

**4.2.3 Recommendation: Monitoring, Awareness, and Education**

- I. Regional council, South Canterbury District Health Board and district councils to continue to assess risks to community drinking water supply wells, and raise awareness of risks and management options with private drinking water supplies.
- II. Regional council provides education and support for ensuring compliance with CDWPZs.
- III. Regional council and district councils, in consultation with Community and Public Health, work collaboratively to improve communication and awareness about CDWPZs by:
  - a. Actively promoting well-head protection;
  - b. Ensuring maps of protection zones are easily accessible by the community;
  - c. Hosting community workshops to improve awareness of protection zones, risk and actions landowners can take;
  - d. Finalising farming and household waste guidelines to distribute to landowners;
  - e. Providing one-on-one contact with land owners in CDWP zones regarding their obligations.

<sup>2</sup> In 95% of samples, *E. coli* must meet a limit of <1 organism per 100 millilitres.

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**4.2.4 Recommendation: Restrictions on Community Drinking Water Supply Abstractions**

- I. Where community drinking water supplies are managed in accordance with a Water Supply Strategy, they will not be subject to an environmental flow and allocation regime.

**4.3 Recognition and Protection of Culturally Significant Sites**

The OTOP zone is in the takiwā of Te Rūnanga o Arowhenua and Te Rūnanga o Waihao. Cultural beliefs, values and practices that underpin the interactions of mana whenua with the catchments in their takiwā include mauri, kaitiakitanga, whakapapa, rangatiratanga, manaakitanga, mahinga kai and the philosophy of *ki uta ki tai* - a mountains to the sea approach to looking after water resources. Consistent with the philosophy of managing *ki uta ki tai*, there is an understanding that all parts of the catchments within the zone were traditionally valued and used, and that all values of importance to iwi and hapū need to be represented in the recommendation package as part of the Healthy Catchments Project.

**Wāhi Taonga, Wāhi Tapu and Nohoanga**

Sites of wāhi taonga are places that are treasured due to their high cultural values and the role they play in maintaining a balanced and robust ecosystem. Examples include spawning grounds for fish, nesting areas for birds, and fresh water springs (waipuna). Others may be associated with historic events such as battles and actions of ancestors.

Sites of wāhi tapu are places of significance that possess a quality of sacredness or restriction (tapu) after a certain event or circumstance. These sites should be treated according to local traditional customs that seek to ensure the tapu nature of a wāhi tapu site is respected. Sites of wāhi tapu also include urupā (burial sites), which are considered to have the most cultural significance, and require the greatest protection.

Nohoanga sites are known as traditional camp sites which are valued by Ngāi Tahu, particularly for mahinga kai. In the zone, there are two nohoanga sites adjacent to the Pareora River, and one site adjacent to the Te Ana Wai River. These nohoanga resulted from the Treaty Settlement, however there are more than 100 traditional nohoanga throughout the zone.

Some of the many important cultural sites still present and valued in the zone include Wāhi tupuna (significant cultural landscapes) Repo Raupō (wetlands), Puna (springs) Wai Maori (important freshwater areas) and Mahinga Kai (places where resources including food are procured). Historical sites of importance indicate an area rich in resources and include Ara tawhito (trails) used to traverse the area, Pa Tawhito (pā sites), Tauranga Waka (canoe mooring sites) Umu ti (ovens for preparation of kauru) and Tuhituhi neherā (rock art).

**Tuhituhi Neherā Rock Art Sites**

South Canterbury has one of the highest densities of tuhituhi neherā rock art sites in New Zealand. Ngāi Tahu consider these to be a taonga and are actively involved in their

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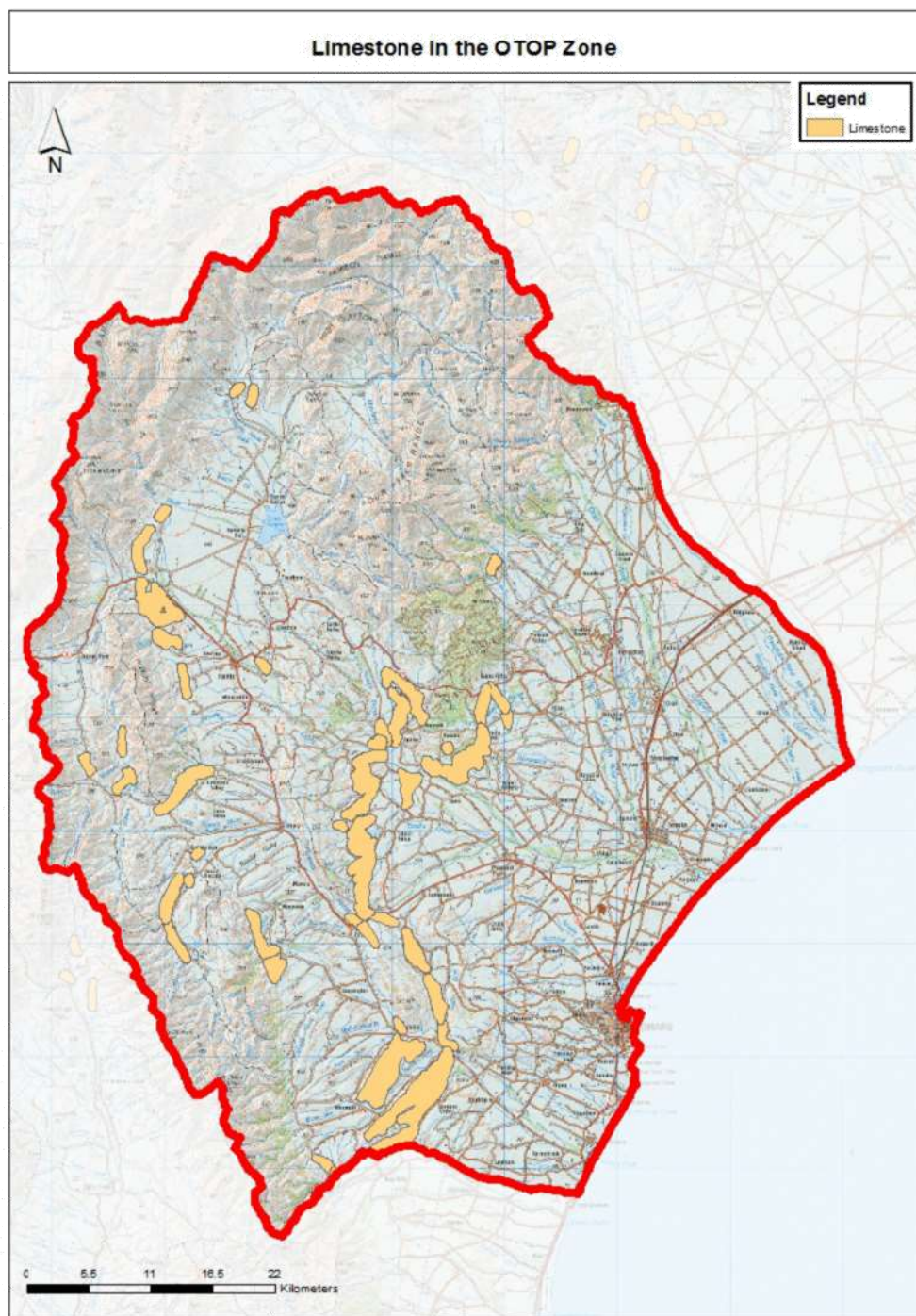
conservation and management. Te Rūnanga o Arowhenua and Te Rūnanga o Waihao are the kaitiaki rūnanga for tuhituhi neherā in the OTOP zone, and the Ngai Tahu Maori Rock Art Trust is charged with working with Papatipu Rūnanga to manage these taonga. The rock art was most commonly applied to limestone, drawn on the stone's surface using paint made from animal or bird fat mixed with vegetable gum and soot or kōkōwai (red ochre). The tuhituhi neherā sites occur throughout the zone in locations where there are limestone outcrops (Map 5).

Tuhituhi neherā sites are inherently fragile and are threatened, in many cases seriously, by adjacent land and water use activities. Rock art is particularly vulnerable to water use activities which can affect the rock art pigments, the integrity of the limestone surfaces, and threaten the nearby freshwater ecosystems which are an integral component of the wāhi tupuna (cultural landscape). Vulnerable tuhituhi neherā sites and related freshwater ecosystems are potentially sensitive to small changes in the local groundwater environment, changes in the local microclimate (increased air moisture, irrigation spray drift), changes in local drainage systems (diversions, new channels, ponding), increased saturated weight of overburden above an outcrop and changes in the water chemistry of natural seepages onto the rock surface and into freshwater ecosystems. These changes can cause the face of the limestone outcrops to deteriorate very rapidly and can lead to salt deposition on the limestone surfaces and to large areas of limestone calving off from the outcrops.

Protection for the cultural landscape is also relevant for sites of Wāhi Tapu, Wāhi Taonga, and Nohoanga, and water quality is a key driver for the maintenance of these sites. The Committee have acknowledged the cultural significance of these sites. In recommending that the policy and rule framework in the OTOP zone protects these sites, they are cognisant that these sites are diverse both in terms of their nature and spatial location. This means a case by case approach to managing the effects of land and water use activities on these sites is needed.

While the district and regional councils can provide some advice on whether there are likely to be cultural sites on a property, the Zone Committee recognise that the best source of information about the location of and effects on these sites is Papatipu Rūnanga.

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*Map 5: Limestone in the Orari-Temuka-Opihi-Pareora Zone*

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**Waipuna (Springs)**

Waipuna have significant cultural value to Ngai Tahu whanui. Wai (water) is the essence of life and a medium between the physical and metaphysical worlds, so all wai is taonga. Waipuna are regarded by some whānau and hapu as a very pure form of wai and are wāhi tapu or wāhi taonga, depending on their whakapapa and use. Some waipuna are associated with special uses such as ceremonies or wai ora (blessings) or wai tophi (baptisms); some have important associations with atua (Gods) and tupuna (ancestors) and are integral to the whakapapa of Manawhenua with an area.

Waipuna are caused by the emergence of aquifer water at surface level, and represent the intersection of groundwater, surface water and land, with their own ecosystems created by the intersection of these three ecosystem types. They are often areas of rich biodiversity with distinctive flora and fauna, which may be endemic to the waipuna or the surrounding locality. Waipuna can provide cold-water inputs that act as refuge habitats at times of low flow, particularly in summer. Waipuna are vulnerable to pollution, damage or destruction from a variety of activities that can have direct or in-direct effects on them and protecting waipuna is therefore a vital tool for protecting biodiversity and mahinga kai in the OTOP Zone.

**4.3.1 Recommendation: Sites of Wāhi Taonga, Wāhi Tapu, and Nohoanga**

- I. The regional council work with Papatipu Rūnanga to develop provisions in statutory plans that recognise sites of wāhi tapu, wāhi taonga and nohoanga and their related freshwater ecosystems where these are an integral component of the cultural landscape and protect them from land and water use activities.
- II. The district councils work with Papatipu Rūnanga to develop provisions in statutory plans that recognise sites of wāhi tapu, wāhi taonga and nohoanga and protect them from potentially damaging effects of land use activities.

**4.3.2 Recommendation: Tuhituhi Neherā Rock Art Sites**

- I. The regional council and district councils work with Papatipu Rūnanga to develop provisions in statutory plans that identify and manage actual and potential effects on tuhituhi neherā sites from the taking, use, damming, diversion or discharge of water, the discharge of contaminants, and land use activities.
- II. The regional council and district councils work with Papatipu Rūnanga to develop non-statutory measures to protect and enhance tuhituhi neherā sites.

**4.3.3 Recommendation: Protection and Enhancement of Waipuna (Springs)**

- I. The regional council and district councils work with Papatipu Rūnanga to develop provisions in statutory plans that identify a waipuna zone and further culturally significant waipuna to manage actual and potential effects on waipuna identified and/or within the waipuna zone from the taking, use, damming, diversion or discharge of water, the discharge of contaminants and land use activities.
- II. The regional councils and district councils work with Papatipu Rūnanga to develop non-statutory measures to protect and enhance waipuna identified as culturally significant and/or within the waipuna zone.



#### 4.4 Protection and Enhancement of Mahinga Kai

The NPS-FM requires, as a minimum, water quality to be maintained or improved for ecosystem health and human health for recreation through the establishment of freshwater outcomes. The NPS-FM also enables additional optional freshwater outcomes to be set if desired by iwi and communities. On this basis, the committee have recommended a freshwater outcome for mahinga kai across the zone. Mahinga kai refers to all types of food and resources and to the places food and resources are gathered. It is of particular importance to Te Rūnanga o Ngai Tahu, Te Rūnanga o Arowhenua, and Te Rūnanga o Waihao.

The Committee have also recommended that mahinga kai values are protected through Farm Environment Plans and Management Plans for farming activities where they may have an impact on mahinga kai. Across Canterbury, mahinga kai values are protected in Farm Environment Plans as amended by Plan Change 5 to the Canterbury Land and Water Regional Plan. The Committee have acknowledged this but have recommended that these protections are extended to Management Plans for permitted farming activities, and are more comprehensive for Farm Environment Plans. Mahinga kai guidelines are currently being prepared by Environment Canterbury to be used by those preparing and auditing Management Plans and Farm Environment Plans for farming activities.

##### 4.4.1 Recommendation: Mahinga Kai Freshwater Outcome

The regional council work with Papatipu Rūnanga to develop provisions in the OTOP section of the LWRP that provide for improved quality and quantity of freshwater mahinga kai species for customary gathering, and water quality being suitable for their safe harvesting, and safety for consumption.

##### 4.4.2 Recommendation: Mahinga Kai Protection in Farm Environment Plans

Farm Environment Plans in the OTOP zone include an objective of protecting mahinga kai values of surface water bodies on the property, where this is achieved through meeting all other FEP objectives and targets and additionally by maintaining and/or enhancing indigenous and riparian vegetation on the property and appropriately managing pest species.

##### 4.4.3 Recommendation: Mahinga Kai Protection in Management Plans

The OTOP sub-region plan change include a requirement that Management Plans for farming activities include a description of how mahinga kai values will be protected.

#### 4.5 Protection and Enhancement of Biodiversity

##### Biodiversity

Biodiversity describes the variety of all biological life, including all animals and vegetation, and the ecosystems they collectively form. Protecting and enhancing the diversity of species (no matter how small), and genetic and habitat diversity, provides resilient communities and enhances a wide range of ecosystem services, including those that support natural environments, agricultural and industrial activities, and human health and wellbeing.



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Biodiversity in the zone is unique, and the habitats that support biodiversity values include high country, hill country, river gorges, inland and coastal plains. The waterways that traverse these landscapes feed into a network of wetlands and coastal lagoons (hāpua), where even small deteriorations to habitat and water quality can have a significant effect on biodiversity.

Species of particular significance in the zone include the Canterbury mudfish, which is critically endangered and lives only in Canterbury, and the long-tailed bat. Other special inhabitants of the area include galaxiids, eels, lamprey, lizards and braided river birds, all of which are dependent on having a safe place to live. Protecting the habitat of species such as these, even when that habitat is not indigenous vegetation, plays an important role in maintaining ecosystem health.

**Protecting and Enhancing Biodiversity**

The Resource Management Act 1991 (RMA) makes the protection of significant indigenous vegetation a matter of national importance. In meeting this obligation, the protection of indigenous biological diversity is a dual function of district and regional councils. This is reflected in the content of the Canterbury Regional Policy Statement (CRPS), which includes criteria for determining whether indigenous vegetation is significant<sup>3</sup> and defines the roles and responsibilities of district and regional councils for protecting significant indigenous biodiversity. District councils are responsible for managing terrestrial biodiversity, and significant indigenous biodiversity in areas classified as "Significant Natural Areas" or "Outstanding Natural Landscapes". Regional councils are responsible for managing biodiversity in the coastal marine area, and in the beds of rivers, and in wetlands and hāpua. The protection of biodiversity and ecosystem health is also a first order priority under the Canterbury Water Management Strategy.

The Land and Water Regional Plan compliments protections in district plans relating to Significant Indigenous Biodiversity by signalling the need for compliance with these rules. Any area of Significant Indigenous Biodiversity mapped by a district council is also required to be identified in Management Plans and Farm Environment Plans.

Farm Environment Plans (FEPs) are required for all farming activities that require a resource consent to farm and are subject to an independent audit. FEPs are the key tool for mitigating adverse effects of a farming activity on the ground. FEPs contain a suite of Management Areas<sup>4</sup> for on farm practices with objectives and targets to be met. The objectives are the outcomes sought for each of the Management Areas, and the targets are measurable statements that contribute to the achievement of objectives. FEPs are also required to identify the risks associated with the farming activity, and detail how these risks will be managed.

Farm Management Plans (FMPs) are required for permitted farming activities but are not subject to an independent audit. FMPs are also a key tool for mitigating the adverse effects of

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<sup>3</sup>Significance is determined by assessing areas and habitats taking account of representativeness, rarity or distinctive features, diversity and pattern, ecological context.

<sup>4</sup>Nutrients, Irrigation, Cultivation and Soil Structure, Animal Effluent and Solid Animal Waste, Waterbodies, Point Sources, and Water use,

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a farming activity. They contain a suite of "Practices" that must be met relating to on farm activities<sup>5</sup>, and the actions that have been taken to meet the practice must be detailed.

To further strengthen the protection of significant indigenous biodiversity, the Committee have recommended that Management Plans and Farm Environment Plans detail how compliance with any district plan rule is being achieved, and also identify areas on farm where indigenous biodiversity could be enhanced and protected.

The Committee recognise the contribution to biodiversity protection and enhancement voluntarily being made by some landowners and see an opportunity for that information to be shared, and for this contribution to be recognised and celebrated. In this way, gains already being made in the zone could provide a template for further protection and enhancement of biodiversity.

**High Naturalness Waterbodies**

Biodiversity can also be protected through the classification of "High Naturalness Waterbodies" in the OTOP sub-region section of the Land and Water Regional Plan. When waterbodies are classified as "High Naturalness", their outstanding and significant characteristics<sup>6</sup> are afforded protection from water take and use activities, damming, and land use activities<sup>7</sup>. These activities must not adversely affect their identified significant values and will require a resource consent to be granted before the activity can occur.

The Orari Gorge and its tributaries from a point upstream of the mouth of the gorge to the headwaters is currently listed in the LWRP as a high naturalness waterbody in the OTOP zone. The outstanding and significant characteristics identified for the Orari are the high degree of naturalness and the high amenity value, including very high scenic and recreational values, and very high-water clarity. The Committee has confirmed the Orari Gorge as a high naturalness waterbody and has further recommended the inclusion of Milford Lagoon and Orakipaoa Creek in the schedule of high naturalness waterbodies to protect their cultural and ecological values.

The Committee has also raised some additional areas for protection within the OTOP zone that do not necessarily meet the criteria for classification as High Naturalness Waterbodies. In particular, the Committee has sought to protect hāpua and wetlands, and the margins of braided rivers. The protection of the habitat and biodiversity values of wetland and coastal systems has been identified as a priority in the community outcomes. To provide this protection, the Committee has recommended that further named wetlands and hāpua within the OTOP zone are afforded the same protection as those hāpua, wetlands and natural state waterbodies that are classified as High Naturalness Waterbodies. Furthermore, through naming these waterbodies as special areas and habitats, the Zone Committee would like to see these as priorities for funding and restoration/enhancement initiatives.

<sup>5</sup>Fertiliser application, Irrigation systems, point sources, effluent application, stock exclusion, and riparian planting.

<sup>6</sup>Characteristics can include cultural, ecological, landscape and amenity values.

<sup>7</sup> Disturbance of their beds, installation of structures, gravel extraction, and introduction and clearance of non-native vegetation.

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**Waterbody Realignments**

In the zone, waterbody realignments and channel straightening have been identified as an exacerbator of poor ecological health in waterways due to changes in hydrology and reduction in habitat variability. The Committee have considered this and recommend that LWRP policies and rules are strengthened to limit these activities to circumstances where they are necessary or would have a net benefit to the waterway. Vegetation clearance is also a common cause of loss of habitat for biodiversity, and mahinga kai values in the zone. The Committee have recommended that the vegetation clearance policies and rules in the zone take these factors into consideration.

**Recommendations**

In making these recommendations to protect and enhance biodiversity, the Committee have acknowledged the roles and responsibilities of district and regional councils, and the protections already in place in the district plans, and the Canterbury Land and Water Regional Plan. Feedback received has indicated that one of the issues in the zone is a lack of understanding and awareness by landowners of planning provisions that protect indigenous biodiversity. The Committee agree there is an opportunity to improve this and wish to see biodiversity is woven into the working landscape of the zone.

**4.5.1 Recommendations: Information Sharing**

- I. For the purposes of maintaining indigenous biological diversity, regional and district councils provide information to landowners about the rules controlling vegetation clearance and monitor the outcomes.
- II. Regional council, district councils and the Department of Conservation work together in identifying and prioritising initiatives for biodiversity enhancement and remediation.

**4.5.2 Recommendation: District Council Plan Development and Plan Reviews**

When district councils are reviewing district plans, they:

- a. Recognise the role indigenous vegetation plays in the health of water catchments, even where the catchment may not meet the criteria for significance, and include provisions controlling general clearance of indigenous vegetation;
- b. Include provisions for controlling large scale earthworks in rural zones, particularly in the upper catchments;
- c. Ensure that provisions relating to identified areas of significant indigenous biodiversity offer effective protection of those areas from clearance or other disturbances;
- d. Include provisions for identified areas of significant indigenous biodiversity that control other land use activities, to manage any actual or potential effects on these areas;
- e. Include provisions for maintaining and enhancing indigenous biological diversity

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**4.5.3 Recommendation: Farm Environment Plans and Management Plans**

Any areas of "Significant Indigenous Biodiversity" mapped by district councils shall be identified in Farm Environment Plans and Management Plans, and methods of complying with any relevant district plan rule relating to the Significant Indigenous Biodiversity must be detailed.

**4.5.4 Recommendation: High Naturalness Waterbodies**

- I. The Orari upper catchment and its tributaries (for its high degree of naturalness, high amenity values and very high water clarity), and Milford Lagoon and Orakipaoa Creek (for their cultural and ecological significance) are classified as 'High Naturalness Waterbodies' for inclusion in the OTOP sub-region section of the Land and Water Regional Plan.
- II The policy and rule framework for High Naturalness Waterbodies recognises the value of, and investment in, existing irrigation infrastructure when considering resource consent applications that will replace an existing resource consent for the same activity on essentially the same terms and conditions.

**4.5.4 Recommendation: Protection for Named Waterbodies**

The policies and rules of the OTOP sub region section of the LWRP provide for protection of the following wetlands and hāpua, particularly in respect of water and land use activities that may affect their natural character or natural function:

- a. Spider Lagoon;
- b. Orari Lagoon;
- c. Old Orari Lagoon and connected wetlands;
- d. Horseshoe Lagoon;
- e. Normanby Lagoon;
- f. Prattley Road Lagoon;
- g. Pig Hunting Creek;
- h. Otipua/Saltwater Creek;
- i. Waitarakao/Washdyke Lagoon;
- j. Seven Sisters wetland;
- k. Peel Forest wetland;
- l. Opihi River Mouth and Lagoon.

**4.5.6 Recommendation: Riparian Management**

- I. To prevent further encroachment into riparian margins, regional and district councils include provisions in their plans to prevent clearance of existing riparian vegetation (except pest vegetation) on the margins of rivers, wetlands and hāpua in the zone.
- II. Any plan provisions developed to implement (I) above shall not preclude the replacement of existing riparian vegetation, provided there is no net loss of riparian vegetation in the affected reach.

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**4.5.7 Recommendation: Channel Straightening and Waterbody Realignments**

Channel straightening and waterbody realignments are not appropriate unless they result in no net loss of any indigenous biodiversity or habitat in the affected reach

**4.5.8 Recommendation: Vegetation**

- I. Regional council and district councils recognise and protect habitat for indigenous species in policies and rules managing vegetation clearance.
- II. Regional council and district councils work with Papatipu Rūnanga to ensure that mahinga kai values are recognised and protected in policies and rules managing vegetation clearance.

**4.5.9 Recommendation: Non-Statutory**

- I. Regional council and industry support collective actions to reduce losses of contaminants and work on wetland and waterway enhancement, and biodiversity projects, prioritising this support in at-risk catchments.
- II. Regional council and industry groups develop good management practice guidelines for the tussock cover ecosystem and other biodiversity values.
- III. Farm Environment Plans, including those developed by industry groups, encourage the identification of further opportunities where new indigenous biodiversity could be established on farm.
- IV. Regional council and industry provide guidance and information on the protection of biodiversity values through a web-based tool.
- V. Land Information New Zealand and the Department of Conservation work with regional and district councils to ensure any tenure review process considers the biological diversity outcomes sought by the Committee.
- VI. Regional council coordinates work to promote habitat suitable for bird nesting and to manage waterbodies for the best cultural, ecological, coastal and flood outcomes
- VII. Regional council implements the Canterbury Regional Pest Management Strategy regarding wilding pines and other invasive forestry species to further protect biodiversity.
- VIII. Regional council to ensure all statutory documents that address gravel takes, flood management and control of instream vegetation align with the recommendations in this ZIPA, when these documents are reviewed, or by 2023 if they have not been reviewed prior to this date.
- IX. A biodiversity action group, or similar, with membership from Papatipu Rūnanga, the community and local bodies, is established to coordinate and promote biodiversity actions in the zone, and investigations are made into the establishment of a fund to assist with projects in the zone which do not qualify for Immediate Steps Funding, but which will promote and enhance biodiversity within the zone.
- X. Projects that contribute to the protection and enhancement of the following areas are prioritised for funding and resources in the zone, including funding allocated under the Immediate Steps Programme:
  - a. coastal margins and lagoons to support indigenous biodiversity and over time provide a biodiversity corridor;
  - b. the protection of long tailed bats;
  - c. protection and enhancement of braided river habitat;

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- d. opportunities to protect high value species, sites or habitats in the zone, especially in the upper catchments.

## 4.6 Forestry and Water Yield

### Forestry

The management of forestry is a dual function of district and regional councils. District councils are responsible for managing forestry from a land use perspective to protect areas of significant indigenous biodiversity in areas considered *Significant Natural Areas* (SNAs) or *Outstanding Natural Landscapes* (ONLs). Regional councils manage forestry where it may reduce water yield (water quantity), and the clearance of forestry where it may affect surface waterbodies (water quality).

In May 2018, the National Environmental Standards for Plantation Forestry (NES-PF) came into effect. These standards replaced all district plan rules in the zone controlling forestry. In summary, the NES-PF does not restrict the location of plantation forestry, except in areas identified by district councils as SNAs or ONLs. However, district and regional councils can have more restrictive rules for forestry to protect these areas.

### Water Yield

Catchments are considered *Flow Sensitive* where the river flows are dependent on rainfall, there is limited ability to store water, and evapotranspiration exceeds rainfall in summer months. Flow Sensitive Catchments have very low summer flows compared with annual mean flows and are vulnerable to reductions in flow. Forestry increases the evapotranspiration within a catchment which can exacerbate the severity of summer low flows.

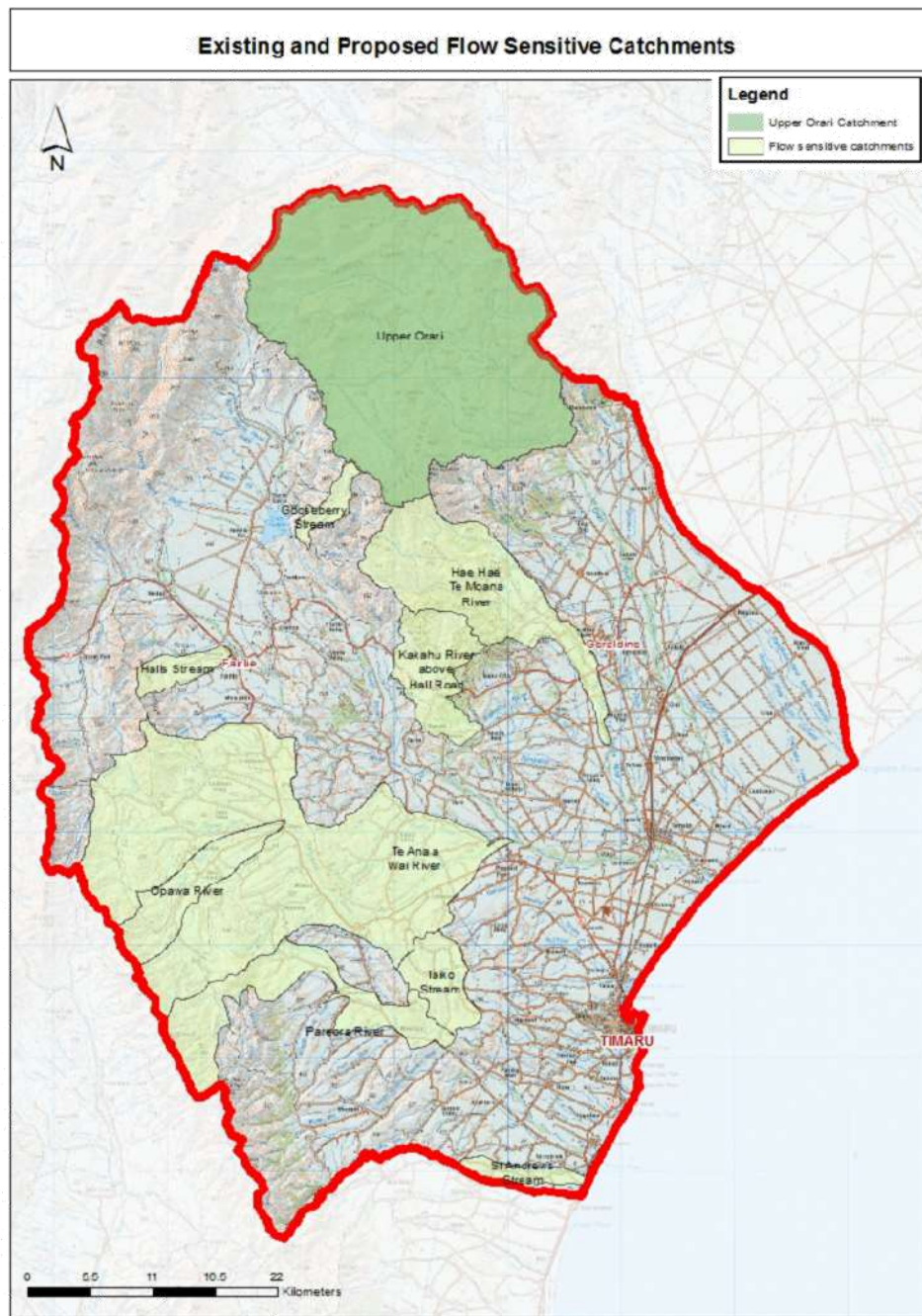
The Canterbury Land and Water Regional Plan identifies eight "Flow Sensitive Catchments" within the zone (Map 6). The LWRP enables new forestry in Flow Sensitive Catchments where it will not result in a measurable reduction in flows in the catchment.

The Committee have identified that the Upper Orari River and tributaries may be at risk if forestry increases within the upper catchment. A study into the potential effects of forestry in the upper Orari indicated that it would meet the criteria to be classified as a flow sensitive catchment. As this upper catchment has little abstraction, and flows leaving the gorge are important for sustaining the lower Orari catchment, there is benefit in limiting forestry in the upper catchment.

The following recommendations have been made acknowledging the roles and responsibilities of district and regional councils, and are a package for protecting both indigenous biodiversity, and water yield from forestry.



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Map 6: Existing and Proposed Flow Sensitive Catchments in the Orari-Temuka-Opihi-Pareora Zone

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**4.6.1 Recommendation: Flow Sensitive Catchments**

- I. The Upper Orari Catchment be identified as a "Flow Sensitive Catchment" to protect water yield.
- II. Retain existing Flow Sensitive Catchments identified in the LWRP:
  - a. Gooseberry Stream;
  - b. Hae Hae Te Moana River;
  - c. Kakahu River;
  - d. Halls Creek;
  - e. Te Ana Wai River;
  - f. Taiko Stream;
  - g. Pareora River;
  - h. St Andrews Stream.
- III. To protect water yield, avoid new plantation forestry in all Flow Sensitive Catchments in the zone where it will result in a measurable reduction of flows in the catchment.

**4.6.2 Recommendation: Forestry**

- I. District councils include provisions in district plans which prevent forestry in areas of outstanding natural landscape, and significant natural areas to protect biodiversity.

**4.7 Protection of Upper Catchments**

The upper catchments of the OTOP zone provide reliable, high-quality water that is valued for drinking water, recreation and irrigation uses. These areas also provide for in-stream values that encourage biodiversity to thrive. Protection of upper catchments is therefore essential, and the Committee have developed recommendations that aim to maintain or improve water quality, protect water yield by limiting diffuse discharges of nutrients and limit forestry in flow sensitive catchments.

Activities in the upper catchment are managed by the LWRP and the Timaru, Waimate and Mackenzie District Plans. Because of the cross-boundary issues, the area requires integrated management by all councils. With the Mackenzie and Timaru district plans currently undergoing review, there is an opportunity for alignment of plans to protect biodiversity from the effects of land use activities in these areas.

The recommendations provided in the Biodiversity, Forestry and Water Yield and Water Quality and Ecosystem Health sections of this addendum will apply to the Upper Catchments of the OTOP zone. The recommendations below are intended to supplement these.

**4.7.1 Recommendations: Further Protection of Upper Catchments**

- I. To ensure achievement of the community outcomes regional and district councils work to align their district and regional plan provisions for upper catchments and consider strengthening these.
- II. The OTOP sub-region plan change to the LWRP include provisions that manage the potential effects of activities (including proposals to plant forestry or otherwise alter current land uses) on water quality and water yield outcomes.

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- III. To protect biodiversity and water quality, regional and district councils recognise the importance of protecting and maintaining tussock cover by managing land use change in the upper catchments.
- IV. Erosion control is managed with species other than invasive and/or plantation forestry species.
- V. Regional council controls invasive species of forestry trees to protect biodiversity and water yield.

## 4.8 Water Quality and Ecosystem Health

### Water Quality

Within the OTOP zone there is widespread concern regarding water quality and threats to drinking water, and ecological, mahinga kai, cultural and recreational values. There is also recognition of the significance of farming to the local economy, coupled with a desire to limit further diffuse discharges of nutrients that place increased pressure on the environment. The recommendations that follow point to a variety of mechanisms to address these concerns, and include recommendations for planning, research, non-statutory actions and support for community science and catchment groups. These recommendations apply across the entire zone. Additional recommendations are included in the FMU-specific sections of the addendum where required to address water quality.

The overarching principles of these zone-wide recommendations are to maintain water quality and stream health where it is meeting community outcomes, and to improve it where it is not. For example, in the upper Orari and upper Waihi Rivers in the hills the recommendations specify that water quality should be maintained at its current state, and in spring-fed streams and wetlands of the lower catchments and coastal plains area which suffer poor health, such as Rhodes Stream, the recommendations are to improve water quality.

Ensuring that the cultural, environmental, social and economic needs of the zone are met is a challenging task, and the Zone Committee have tried to balance these factors when considering water quality issues by basing their decisions on principles of equity and fairness. To protect and enhance the lower reaches of hill-fed rivers and spring-fed streams, it is critical that contaminant inputs are managed, and flow regimes are established.

### Ecosystem Health

Periphyton is one of the key ecosystem health attributes in the NPS-FM for which freshwater objectives must be set. Furthermore, where conspicuous periphyton is likely to occur the NPS-FM requires regional councils to set instream concentrations of dissolved inorganic nitrogen (DIN) and dissolved reactive phosphorus (DRP) in rivers to help achieve their freshwater objectives for periphyton. In the OTOP zone, conspicuous periphyton is generally found in the mainstems of the Pareora, Opihi, Temuka and Orari rivers and their major tributaries.

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**Swimming Sites**

Environment Canterbury's summertime contact recreational monitoring programme identifies numerous sites across the zone as popular swimming sites. These sites are listed in Recommendation 4.8.5 of this document, and information about the state of the water at each is available at the following website: <https://www.lawa.org.nz/explore-data/canterbury-region/swimming>. These sites have been selected over several years based on community discussions, local knowledge and agreements with the relevant district councils and district health boards. Areas on rivers commonly used for swimming can be listed in Schedule 6 of the Canterbury Land and Water Regional Plan, which affords these sites protection, particularly from stock access, and ensures that they will be monitored and reported on. The Committee have acknowledged these sites and have recommended further sites for inclusion in Schedule 6 of the LWRP and the deletion of the Brussels Bridge site.

**Pathways for Maintaining and Improving Water Quality**

The key pathways for reducing the impact of farming on water quality are the implementation of industry agreed Good Management Practices (GMP), Farm Environment Plans (FEPs), and stock exclusion from waterways. The Committee support these mechanisms as provided for in Plan Change 5 (PC5) and in the Canterbury Land and Water Regional Plan. PC5 requires a resource consent for high risk farming activities<sup>8</sup> and preparation of an audited Farm Environment Plan. The consent pathway for these properties also requires the preparation of an OVERSEER<sup>®</sup> (or approved equivalent) modelled nutrient budget that is registered with the Farm Portal and that farming activities be subject to a Nitrogen Baseline GMP Loss Rate limit from July 2020. Lower risk farming activities<sup>9</sup> are required to prepare a Management Plan (which is not audited) and are not be required to obtain resource consent.

The OTOP zone has large areas of erodible soils that occur on hill country and rolling downlands, these are a high risk for runoff of sediment and contaminants. The High Runoff Risk Phosphorus Zone (HRRPZ) identifies areas that are likely to result in runoff, particularly when under pressure from stock, high rainfall events, and cultivation or areas of bare soil (Map 7). Research indicates that winter forage crops grazed by cattle and deer are a significant source of soil loss and overland flow of nutrients to surface waterbodies, particularly on sloping land. The Committee consider the risks from large areas of winter grazing (greater than 20 ha) in the HRRPZ should be managed through a resource consent and Farm Environment Plan that is audited. However, where this is the only reason for requiring an FEP and resource consent, the Committee does not see the necessity for these farms to prepare a nutrient budget. This recommendation seeks to ensure the effective management of critical source areas for overland flow of contaminants, while minimising the cost to the land owner.

<sup>8</sup>Farming activities on properties greater than 10 hectares, with more than 50 hectares of irrigation; or greater than:

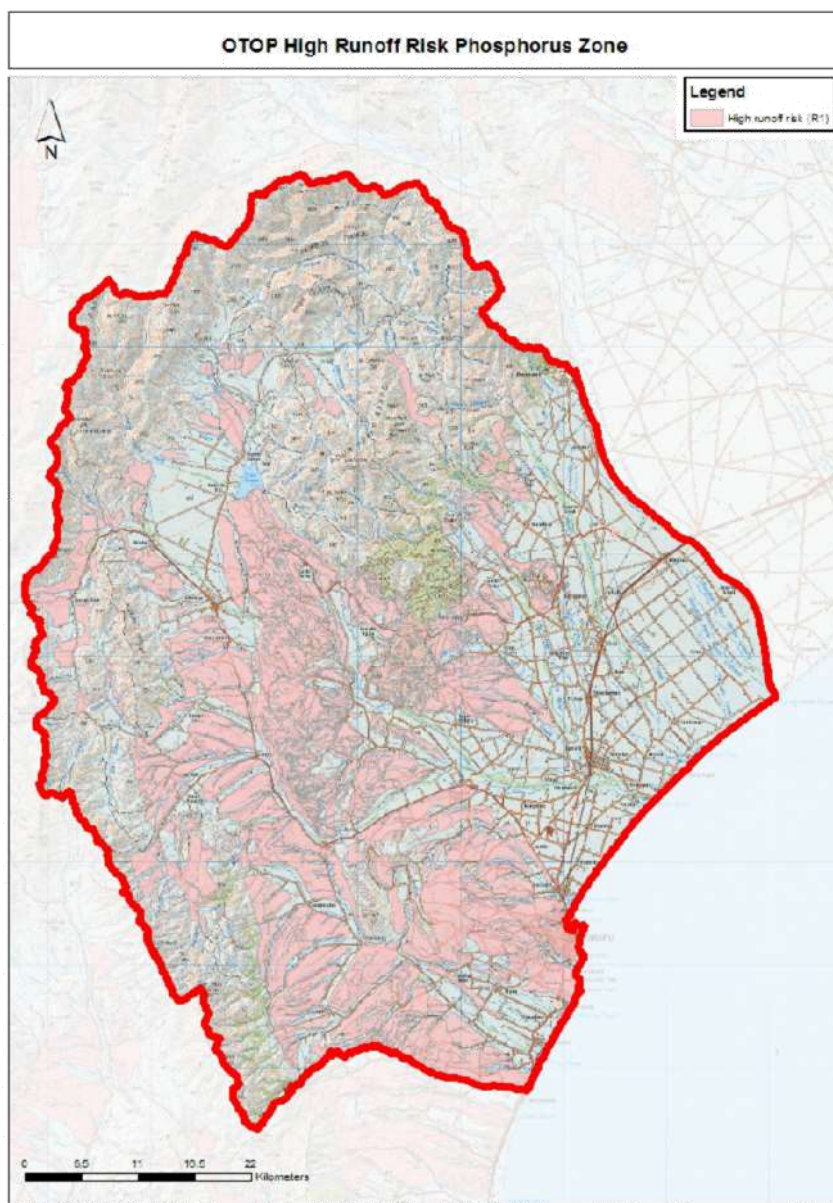
- a. 10 hectares of intensive winter grazing of cattle for properties less than 100 hectares in area;
- b. 10% of the area of the property for properties between 100 hectares and 1000 hectares in areas;
- c. 100 hectares for any property greater than 1000 hectares in area.

<sup>9</sup>Farming activities on properties greater than 10 hectares, with less than 50 hectares of irrigation; or less than:

- a. 10 hectares of intensive winter grazing of cattle for properties less than 100 hectares in area;
- b. 10% of the area of the property for properties between 100 hectares and 1000 hectares in areas;
- 100 hectares for any property greater than 1000 hectares in area.



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Map 7: Orari-Temuka-Opihi-Pareora High Phosphorous Risk Zone<sup>10</sup>

<sup>10</sup> The High Runoff Risk Phosphorus Zone indicates areas where there is a high potential for fine particulate matter with attached phosphorus to be carried by runoff flow to surface waterbodies

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Spring-fed streams in the OTOP Zone generally have poor health in terms of sedimentation and faecal contamination due to inadequate riparian protection, run-off from critical source areas, and stock access to waterways. Open drains and canals can also be a direct conduit for contaminants into these streams. Stock exclusion from waterways and effective management of riparian margins on farm are two of the most effective ways of minimising the overland flow of contaminants to surface water bodies from farming. The Committee have recommended that the stock exclusion rules in the OTOP Zone should be strengthened to include drains and canals discharging to surface waterbodies.

Farm Environment Plans and Management Plans are a key tool for ensuring stock are excluded from waterways with an appropriate setback distance. An "effective" setback distance for fencing a stream for stock exclusion will depend on the nature of the waterway, how vulnerable it is to contamination due to the surrounding land characteristics and practices, and whether the setback is for bank protection or nutrient filtering and assimilation. The Committee consider these requirements will be best determined through the development, implementation and audit of FEPs and recommend some level of monitoring of Management Plans in high risk and priority areas.

Despite these pathways for maintaining or improving water quality, the current state<sup>11</sup> water quality data indicates that there is a requirement in the future for land owners in the Rangitata Orton, Levels Plains, and Fairlie Basin areas to reduce nitrogen losses further than Baseline GMP loss rates to achieve water quality outcomes over time. These areas are referred to as nitrate hot spots and are areas with high nitrate concentrations where targeted nitrogen reductions are required (Map 8).

A Farmers' Reference Group investigated the costs and benefits of mitigations to further reduce nitrogen losses and has reported to the Zone Committee on opportunities currently available and some alternatives still under investigation. The results of the modelling undertaken by the Group showed that achieving loss rates beyond baseline GMP will require farm system changes for many of the affected farmers and will also be likely to increase the complexity of farm management. The practices to reduce nitrogen losses from farm that can be implemented now, and reflected in overseer nutrient budgets, include reducing nitrogen fertiliser applications and reducing the nitrogen in supplements by using lower protein feed sources such as grain, maize and fodder beet. The use of standoff pads during high risk periods was also investigated by the Group and found to be an effective mitigation (although likely to be the most expensive option) to reduce nitrogen losses beyond baseline GMP.

Timaru, Waimate and Mackenzie District Councils all operate reticulated stormwater networks which discharge contaminants into surface water bodies across the zone. From 30 June 2018, district councils operating an existing network have been required to apply for a resource consent and comply with the water quality Receiving Water Standards contained in the Land and Water Regional Plan by 2025. A Stormwater Management Plan must accompany the

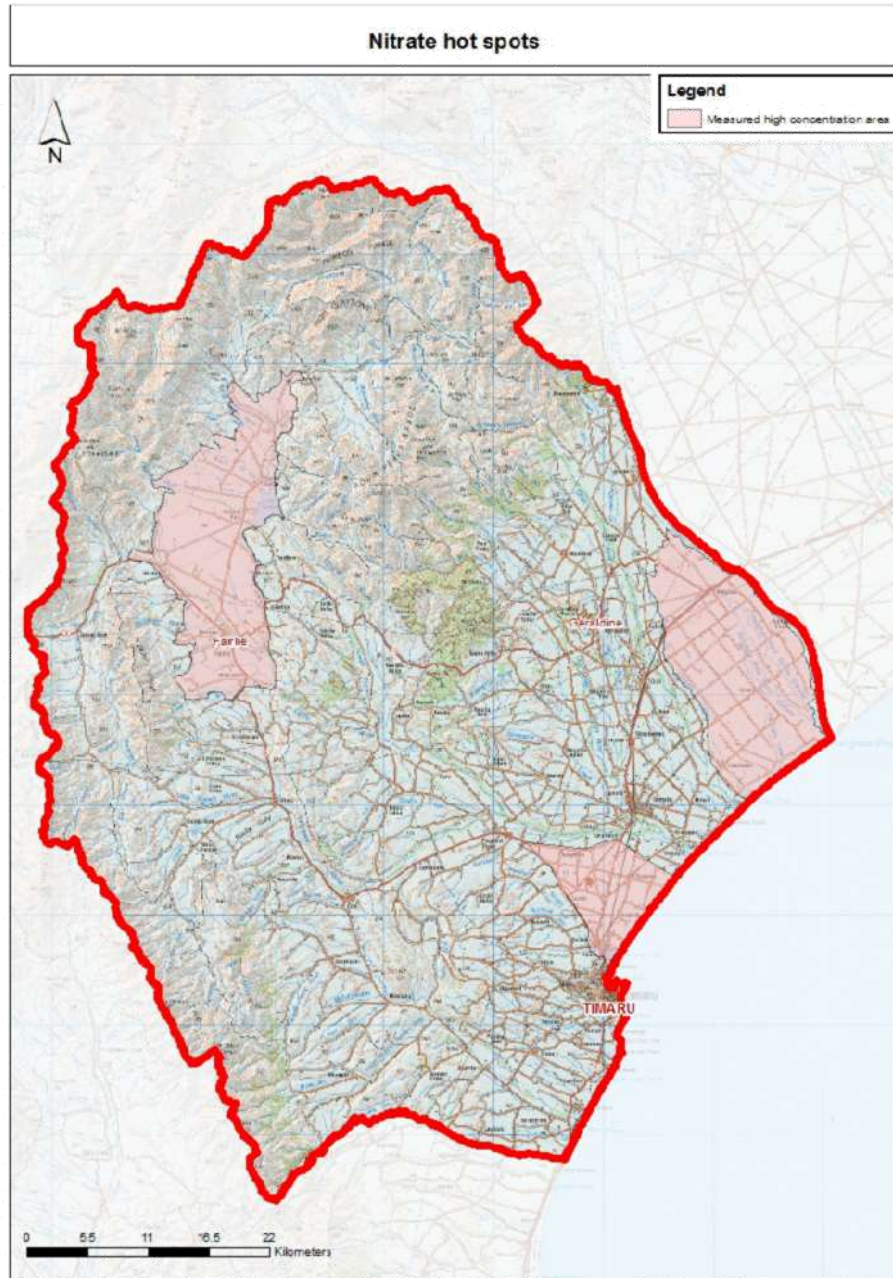
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<sup>11</sup> Current state water quality is based on data from the preceding five-year period. Five years of regular monitoring data is generally considered appropriate for determining current state as it incorporates annual variability as well as time for recent changes to be detected, while also providing sufficient data points for determining mean, median and mode, and variability of dataset.



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application and detail how these limits will be met. The limits relate to toxicants, metals, sediment, nutrients and faecal indicator bacteria, and are based on the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC) 2000. The limits provide different trigger values for different levels of protection (percentage of species expected to be protected).



Map 8: Nitrate Hotspots in the Orari-Temuka-Opihi-Pareora Zone

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It is predominantly urban waterways in the zone that receive stormwater discharges. The LWRP requires these discharges to meet at least 90% species protection by 2025. The Committee are supportive of this level of protection and timeframe for achievement but have recommended that any new discharge of stormwater into a reticulated network will be expected to meet the 95% level of species protection threshold.

While water quality in the zone is under pressure from the primary sector, there are additional factors affecting water quality, and it is essential that these are recognised, monitored and managed. This includes Emerging Organic Contaminants (EOC), and large-scale discharges of industrial wastewater that occur in the zone. EOCs are defined as *'any synthetic or naturally occurring chemical or any microorganism that is not commonly monitored in the environment but has the potential to enter the environment and cause known or suspected adverse ecological and (or) human health effects'*. Potential sources of EOCs include: stormwater, sewage, landfill, and chemical use by the agricultural industry. Currently there is no routine monitoring of EOCs in our environment

There is also risk to in-stream values from the increased occurrence of potentially toxic Phormidium blooms across the zone, which over the past decade have had a profound impact on the community's recreational use of rivers in the OTOP zone. Phormidium blooms not only create issues for recreational water users, but also cause concern for mahinga kai and drinking water supplies.

**Recommendations**

In making the following recommendations, the Committee aim to address the community's concerns about water quality in the zone. The Committee acknowledge that there are already on-the-ground activities taking place, but that more needs to be done, over time, to protect ecological and cultural values in local waterbodies and achieve community outcomes.

**4.8.1 Recommendation: Water Quality Outcomes (Groundwater and Spring-fed Streams) – Zone Wide**

The recommendations below are the freshwater outcomes that apply across the zone for freshwater resources.

**I. No Deterioration of Water Quality:**

- a. Where existing freshwater quality is already better than any outcome or limit set out in this ZIPA, there shall be no deterioration of that water quality.

**II. Groundwater:**

- a. Annual average nitrate nitrogen concentrations in groundwater within each groundwater province (Map 9), excluding the hot spot areas of Rangitata Orton, Levels Plains, and the Fairlie Basin, shall be maintained at or improved beyond the current state limits set out in Table 1.
- b. In the hotspot areas of Rangitata Orton, Levels Plains, and the Fairlie Basin, annual average nitrate nitrogen concentrations in groundwater shall

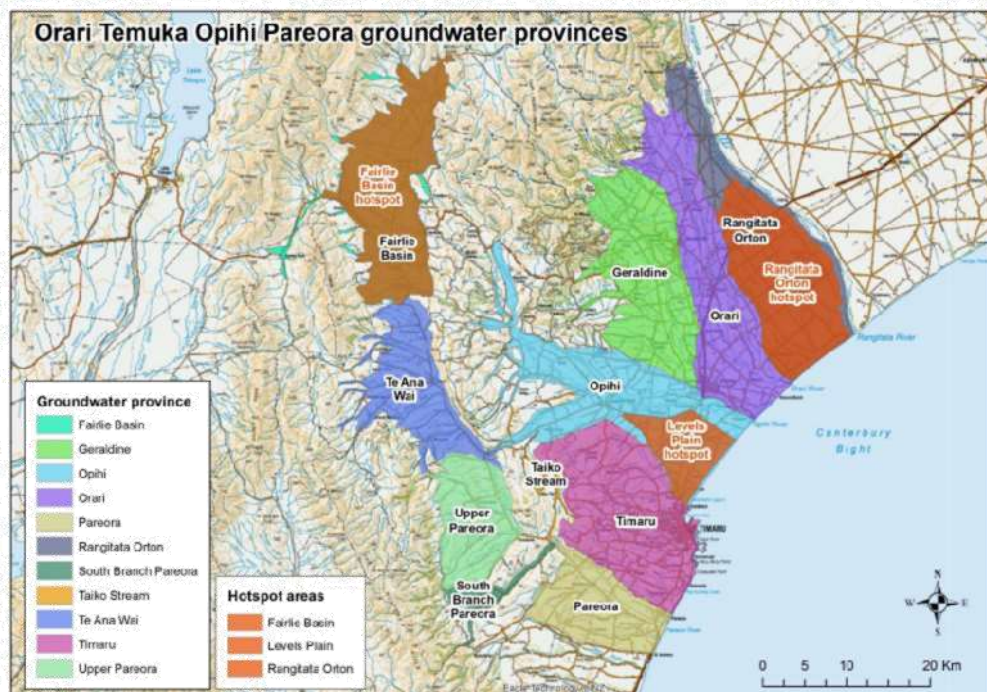
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not exceed 5.65 mg/L<sup>12</sup> as a target to be achieved at or before the dates specified in Recommendations 5.1.2, 5.3.4, and 5.4.3 of this ZIPA.

- c. Within five years of the OTOP sub-region plan change becoming operative *E. coli* in groundwater shall not exceed the limit in the Land and Water Regional Plan<sup>13</sup>.

III. Surface Water nitrates:

- a. Annual median concentrations of nitrate nitrogen in individual spring-fed streams shall be maintained at or improved beyond the current state limits set out in Table 2.
- b. In the hotspot areas of Rangitata Orton and Levels Plains, annual median concentrations of nitrate nitrogen in individual spring-fed streams set out in Table 3 shall not exceed 6.9 mg/L<sup>14</sup> as a target to be achieved at or before the date specified in Recommendation 5.1.2 and 5.4.3



Map 9: Orari-Temuka-Opihi-Pareora Groundwater Provinces

<sup>12</sup> 5.65 mg/l is half the Maximum Allowable Value of 11.3 mg/L as set out in the Drinking Water Standard for New Zealand 2008

<sup>13</sup> In 95% of samples, *E. coli* must meet a limit of <1 organism per 100 millilitres.

<sup>14</sup> 6.9 mg/L is the National Bottom Line under the NPS-FM for nitrate toxicity for ecosystem health.



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Table 1: Recommended Nitrate Limits for Groundwater

Groundwater Province	Current state average (2011-2016) (mg/L)	Recommended Limit (mg/L)
Geraldine	2.8	5.65
Opihi	4.7	
Orari	2.7	
Pareora (lower)	2.6	
South Branch Pareora	Insufficient data available and ongoing monitoring is required	Or where groundwater quality is already better than this limit, water quality shall not deteriorate below its existing state at plan notification.
Taiko Stream		
Te Ana Wai		
Timaru		
Upper Pareora		

Table 2: Recommended Nitrate Limits for Spring Fed Streams

FMU	Site Name	Current state (2011 – 2016)	Recommended Limit
		5 year median (mg/l)	Annual median (mg/l)
Orari	Petries Drain Canal Road	5.0	6.9 For any surface waterway, where water quality is better than this limit, water quality shall not deteriorate below its existing state at plan notification
	North Branch Ohapi Creek Guild Rd	0.7	
	Ohapi Creek Guild Rd	0.7	
	South Branch Ohapi Creek Guild Rd	0.9	
	Ohapi Creek Above Orari Confluence	0.7	
	Coopers Creek SH72 Bridge	0.9	
	McKinnons Stream Wallaces Bridge	4.9	

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Temuka	Smithfield Creek Te Awa Rd	3.8	
	Taumatakahu Stream Murray St	1.4	
	Raukapuka Creek Coach Road	1.8	
Opihi	Orakipaoa Creek Milford Lagoon	1.4	

**4.8.1A Recommendation: Water Quality Outcomes (Rivers and Lakes) – Zone Wide**

All rivers and lakes in the OTOP Zone are to meet the freshwater outcomes contained in Tables 1a and 1b of the Canterbury Land and Water Regional Plan. Dissolved Inorganic Nitrogen (DIN) and Dissolved Reactive Phosphorous (DRP) limits will be developed to ensure the periphyton outcome, as required by the 2017 amendments to the NPS-FM, is met.

**4.8.2 Recommendation: Pathways to Achieving Water Quality Outcomes**

- I. Diffuse discharges of nutrients are capped at current limits, and are reduced over time where required to meet water quality limits in hot spot areas:
  - a. Rangitata Orton;
  - b. Fairlie Basin;
  - c. Levels Plain.
- II. High risk farming activities to be subject to a resource consent, operate at Good Management Practice and prepare Farm Environment Plans as required by Plan Change 5 to the Canterbury Land and Water Regional Plan, and as supplemented by the recommendations in this addendum.
- III. For farms incorporating winter grazing of either cattle or deer on a total area exceeding 20ha in the High Runoff Risk Phosphorus Zones, this activity shall be subject to a resource consent requiring a Farm Environment Plan.
- IV. Regional Council reviews the High Runoff Risk Phosphorous Map for the Orari-Temuka-Opihi-Pareora Zone prior to the notification of the OTOP sub region plan change.
- V. Low risk farming activities to be subject to a Management Plan as required by Plan Change 5 to the Canterbury Land and Water Regional Plan, and as supplemented by the recommendations in this addendum.
- VI. For the purposes of stock exclusion as addressed in the LWRP, a river should include all drains and watercourses, but exclude irrigation canals, water supply races and canals for the supply of electricity generation, where these races and canals do not discharge to a river or surface water body.
- VII. For the purposes of stock exclusion as addressed in the LWRP, springheads will be protected where they discharge to a river or surface waterbody, or where they are within an area identified as a culturally significant site.

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- VIII. Establish a nitrogen load limit for industrial discharges to achieve water quality outcomes, while recognising existing investment.
- IX. Industrial activities to adopt the Best Practicable Option (BPO) for the treatment and disposal of discharges.
- X. Where periphyton and macrophyte outcomes are not met, investigate and implement options to achieve these e.g. flow/shading/nutrients/sediment.
- XI. Operators of reticulated stormwater networks to apply for a discharge permit on or before 30 June 2018 and prepare a stormwater management plan.
- XII. Ground and surface water replenishment schemes such as Managed Aquifer Recharge and/or Targeted Stream Augmentation are enabled to improve freshwater quality across the zone.

**4.8.3 Recommendation: Supporting Change**

Regional council and industry:

- a. Support farmers' move to Good Management Practices (GMP).
- b. Provide advice and support for successful and effective riparian planting.
- c. Explore options for initiatives that enhance, improve or protect water quality (for example enhancing wetlands, riparian planting).
- d. Prioritise work with farmers that addresses:
  - i. The Fairlie Basin, Levels Plain and Rangitata Orton nitrogen hot spots;
  - ii. Nutrient, *E. coli* and sediment issues in Temuka FMU.
- e. Within six months of the plan change being made operative regional council develop a robust water quality monitoring and reporting programme to inform plan effectiveness and review.
- f. Regional council, in consultation with Papatipu Rūnanga and community groups, develop and support monitoring programmes that evaluate the effectiveness of both regulatory and non-regulatory interventions and initiatives, and enable communities to monitor their own environment.
- g. Regional council makes provision in its Long-Term Plan for surveying, identifying and mitigation of Emerging Organic Contaminants, based on risk assessments.
- h. Regional council make provision in its Long-Term Plan for some targeted monitoring of Management Plans, in high risk and priority areas.

**4.8.4 Recommendation: *Phormidium***

- I. Environmental flow regimes, including those that are managed, will consider the potential impact on *Phormidium* blooms.
- II. Regional council completes further locally relevant research on *Phormidium* controls for future decision making.

**4.8.5 Recommendation: Swimming Sites**

- I. Regional council identifies the following sites as primary contact sites for inclusion in Schedule 6 of the Land and Water Regional Plan:
  - a. Orari River Gorge;
  - b. Waihi River Gorge;
  - c. Waihi River at Geraldine;



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- d. Hae Hae Te Moana River Gorge;
- e. Lake Opuha at Recreation Reserve;
- f. Lake Opuha at Ewerts Corner Boat ramp;
- g. Opihi River:
  - i. Raincliff Scout Camp
  - ii. Allandale Bridge
  - iii. Saleyards Bridge;
  - iv. State Highway One;
  - v. Waipopo Huts;
- h. Te Ana Wai River at Belmont Bridge.
- i. Temuka River at State Highway One;
- j. Pareora River:
  - i. Upper Pareora at Lindisfarne
  - ii. Evans Crossing;
  - iii. Pareora Huts;

## 4.9 Water Quantity

### Background

The Zone Committee recognise the growing pressure on local waterways and the risks of a drying climate. The Committee acknowledge that some surface water resources across the zone are considered over-allocated, and a number of waterways are under pressure from low flows.

Water quantity across the zone is currently managed by the Canterbury Land and Water Regional Plan in the Orari and Timaru FMUs, the Opihi River Regional Plan in the Opihi and Temuka FMUs, and the Pareora Environmental Flow and Water Allocation Regional Plan in the Pareora FMU. The Committee have acknowledged the management regimes under these plans and are not recommending any substantive changes to the Orari or Pareora environmental flow and allocation regimes.

### Changes to Minimum Flows

The environmental flow and allocation regime for the Opihi and Temuka catchments has been operative since 2000, and the Committee acknowledge some changes are needed to this regime to address the over allocation of freshwater resources, minimum flows, and the methodology for estimating a stream depletion effect of shallow groundwater abstractions.

The Committees' first step in addressing this over allocation is to cap allocation limits and prevent further allocation from occurring. The Committee are also seeking to increase minimum flows at appropriate intervals, with the cultural flow preference for waterways being the long-term target. They recognise the need to strike a balance between the cultural, ecological, social and economic demands on the freshwater resources in the zone.

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**Out of Catchment Water**

The Committee are supportive of out-of-catchment water being introduced into the zone, provided Papatipu Rūnanga are actively engaged in any decision-making process. The Committee have therefore recommended that the sub-region plan change enables out-of-catchment water to be brought into the zone to restore any potential reduction in reliability that may occur as a result of increased minimum flows, or to provide for new irrigation.

**Actual Use**

Water metering data has shown that consent holders do not use all their consented allocation. Basing allocation on records of actual use for water abstractions, rather than an existing consented annual volume is a tool that provides a more accurate and equitable method of ensuring over-allocation is addressed when consents are renewed. Using the actual water use data reduces the risk of further abstraction on waterways without restricting consent holders beyond current reliability.

**Stream Depletion**

Groundwater abstraction can influence flows in nearby streams, the effect is referred to as *stream depletion*. The magnitude of this effect is dependent on the rate of pumping from the groundwater, the distance from the waterbody and the characteristics of the aquifer being pumped. If groundwater is closely linked to surface water, the effect can be mitigated at times of low flow by ceasing abstraction. This means low flows in streams can receive some protection by turning off stream depleting groundwater abstractions.

To quantify the stream depletion effect, the LWRP sets a methodology which calculates the depletion effect if the take was pumped at its average rate for 150 days (and maximum rate for 7 days). This calculation quantifies the cumulative effect of a season's worth of abstraction and is applied throughout most of Canterbury.

The Opihi River Regional Plan has an older methodology for calculating stream depletion and uses a 30-day stream depletion calculation. Both methodologies indicate how connected a groundwater take is to the surface water body and are used to define whether a groundwater take needs a minimum flow and should be treated in the same way as surface water abstractions.

The 150-day stream depletion test is a more robust calculation of the stream depletion effect on nearby waterbodies and consequently provides a higher level of protection to these water bodies. It also means that more groundwater abstractions are counted as being stream depleting in the Opihi and the Temuka catchment than under the 30-day test in the ORRP. These newly identified stream depleting groundwater abstractions will have a reduction in reliability of supply as they will have minimum flows imposed on them at times of low flows. Previously these abstractions would have been unrestricted, even when nearby streams were experiencing low flows.

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**Groundwater Allocation Zones**

Groundwater allocation within the zone is managed via seven groundwater allocation zones (GWAZs), representing areas with similar hydrology and sources of recharge. The zone boundaries are generally based on areas defined as gravels. Each GWAZ has an allocation limit set (in Million M<sup>3</sup>/year), against which consented allocations are counted. As the current groundwater allocation zones do not cover all areas within zones, it is possible for consent applications to be lodged for abstraction outside of these zones. If granted, these can still have an impact on the water balance of the catchment and aquifer. Extending the boundary of the groundwater allocation zones to the catchment boundaries will result in all areas within the OTOP zone being covered by an allocation zone, so that all consents will be counted towards an allocation limit, and over allocation can be avoided where an allocation limit is exceeded.

**Recommendations**

The recommendations provided below are general recommendations for water quantity that apply zone wide. FMU specific recommendations for addressing over allocation and minimum flows are provided in the specific FMU sections that follow.

**4.9.1 Recommendations: General**

- I. Where cultural flows are not being met across the OTOP zone, they remain the long-term aspiration.
- II. The installation of on-farm water storage to maximise efficient use of water and enhance reliability is enabled where appropriate.
- III. Groundwater allocation zone boundaries are extended so the entire OTOP zone has mapped Groundwater Allocation Zones.
- IV. The taking and use of irrigation scheme water is prioritised over individual surface and groundwater sources.

**4.9.2 Recommendation: Stream Depletion Methodology**

- I. The methodology in the Land and Water Regional Plan for estimating a stream depletion effect of shallow groundwater abstractions is to apply zone wide.
- II. The allocation block that newly identified stream depleting groundwater abstractions will be factored into is to be determined by the date their consent was granted in accordance with the priority for abstraction specified in the Opihi River Regional Plan.
- III. In the Opihi Freshwater Management Unit, water permits granted prior to 30 July 1994 are AN<sup>15</sup> Permits. Water permits granted subsequent to this date are BN<sup>16</sup> Permits.
- IV. In the Temuka Freshwater Management Unit, water permits granted prior to 1 January 1991 are A Permit consents. Water permits granted subsequent to this date are B Permit consents.

**4.9.3 Recommendation: Allocation Limits and Transfers**

- I. Establish allocation limits for abstractions of surface water in the Opihi and Temuka FMUs that reduce over time.

<sup>15</sup> AN Permits are A permits where the consent holder does not hold shares in Opuha Water Limited.

<sup>16</sup> BN Permits are B permits where the consent holder does not hold shares in Opuha Water Limited.

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- II. Existing allocations for surface water are to be capped at current level of abstraction.
- III. Groundwater abstraction is to be capped at current volume of abstraction, and an additional allocation block provided to allow holders of surface water and/or stream depleting groundwater permits to abstract deep groundwater provided the surface water and/or stream depleting groundwater permit is surrendered.
- IV. Provide for site to site transfers of water but only in circumstances where the transfer is of water that has actually been used during the previous 5 years (based on actual usage records), does not affect the reliability of existing abstractors, and, in accordance with the extent the catchment is over-allocated, there is a surrender of water that matches the extent of over-allocation, up to a maximum of 75%<sup>17</sup>.
- V. Prohibit the transfer of any unexercised water permit, and/or of any unused water, based on actual usage records.

**4.9.4 Recommendation: Preventing Over-Allocation**

Prohibit any abstraction, other than for community drinking water supplies, where a limit has, or will be, exceeded.

**4.9.5 Recommendation: Phasing out Existing Over-Allocation**

- I. Water User Groups are incentivised to reduce allocation in the establishment of environmental flow and allocation regimes.
- II. On renewal of a water permit, annual volumes are to be based on actual use data, with data taken from the five-year period prior to notification of the OTOP sub-region plan change, taking account of climatic conditions and availability of alternative supplies<sup>18</sup>.
- III. Any application to amend any condition concerned with the rate, volume or application area of any existing resource consent to take and use water is to include a review of the actual usage compared with the consented volume and rate of abstraction and, where appropriate the consent is to be amended to reflect actual usage<sup>19</sup>.
- IV. For any water permit that lapses, is surrendered, or expires and is not renewed, the rate and/or volume is not reallocated.
- V. As part of an overall water quantity management regime, lapse dates on unexercised consents are prevented from being extended except where exceptional extenuating circumstances are demonstrated.

**4.9.6 Recommendation: Introduced Out-of-Catchment Water**

**Note:** The Zone Committee did not reach consensus on this recommendation as the outcome does not address the concerns of Te Rūnanga o Arowhenua.

- I. The sub-region plan change for OTOP supports out-of-catchment water being brought into the zone.
- II. Papatipu Rūnanga are actively involved in any decision-making regarding out of catchment water being brought into the zone.
- III. The use of introduced water is to be prioritised over individual surface and groundwater sources.

<sup>17</sup>This recommendation does not apply to water permits affiliated to Opuha Water Limited.

<sup>18</sup>This recommendation does not apply to water permits affiliated to Opuha Water Limited.

<sup>19</sup>This recommendation does not apply to water permits affiliated to Opuha Water Limited.

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**4.9.7 Recommendation: Resource Consent Reviews and Priority**

- I. Regional council to review water permits in the Orari, Temuka and Opihi FMUs to align with the Environmental Flow and Allocation Regime immediately following the OTOP sub-region plan change becoming operative.
- II. Regional council to include the stream depleting consents that affect the following catchments in the priority that is set for consent reviews in the OTOP Zone:
  - a. Awarua Catchment (Temuka FMU);
  - b. Waipopo and the area around the Opihi Lagoon (Opihi FMU);
  - c. Kotare Catchment (Opihi FMU);
  - d. Dobies Creek (Temuka FMU);
  - e. Raukapuka (Temuka FMU).

**4.9.8 Recommendation: Global Water User Groups**

The formation of Global Water User Groups allowing members to increase their instantaneous rate of take above the rates specified on the members existing individual consents is enabled via a consenting pathway providing:

- a. There is no net increase in the total instantaneous rate of take and volume abstracted from the subject water body as authorised by the individual existing consents;
- b. The total instantaneous rate of take and volume is limited to actual use data in accordance with the members existing consents;
- c. The abstraction(s) under the Global Water User Group consent complies with the applicable environmental flow and allocation regime, including partial restrictions.

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EMBARGOED



## 5.0 FMU Specific Recommendations

The recommendations preceding this section apply across the whole OTOP zone, the following recommendations have been developed to address issues that are specific to a particular area, referred to as a Freshwater Management Unit (see FMU Map 2, Page 12). The sections herein begin with the Orari area in the north and work down the zone, finishing with the southern-most, the Pareora FMU.

### 5.1 Orari Freshwater Management Unit

*The recommendations for the Orari Freshwater Management Unit are in addition to those that apply across the OTOP Zone.*

#### Upper Catchment

The upper reaches of the Orari River, above the mouth of the Orari Gorge, are recognised in the LWRP as a high naturalness waterbody, and much of the area is identified as a regionally outstanding landscape by the Department of Conservation. The area also has high recreational and biodiversity values and good aquatic ecosystem health. The community has expressed concern about potentially adverse effects to this area from land use activities. The Zone Committee recognise and acknowledge the work of the local community to develop the Orari River Catchment Management Strategy, and fully supports its ongoing implementation as part of the Zone Implementation Programme (ZIP).

#### Orari Conjunctive Use Zone

The LWRP defines a conjunctive use zone in the Orari catchment, an area with a high level of interaction between surface water and groundwater. To acknowledge this close link, shallow groundwater takes (less than 30m deep) are counted as stream depleting and have minimum flow conditions and are counted as abstractions from the river. The committee consider there may be some groundwater abstractions near the boundary of this zone that may have extenuating circumstances and may not be as closely linked to the river as the wider groundwater. In these special cases the Committee consider that consent holders should have the opportunity to assess their degree of hydraulic connectivity to surface water.

To maintain the purpose and benefit of the conjunctive use zone, shallow groundwater abstractions need to continue to be classified as directly stream depleting, but with some flexibility for the small number of consents which may not be as directly linked to the surface water. To meet this criteria consent holders would need to demonstrate that they have a moderate or low stream depletion effect via field testing.

#### 5.1.1 Recommendation: General

- I. Regional and district council's work programmes implement the Orari River Catchment Management Strategy 2008.
- II. Regional and district councils shall implement the Regional Pest Management Strategy to control invasive tree species

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**Water Quality**

**Rangitata Orton Hot Spot**

The Zone Committee note the challenges in the Orari FMU, particularly the nitrate hot spot in the Rangitata Orton area, and the generally poor health of the lowland spring-fed streams. While the Committee understand the need for a pathway to improving surface and groundwater quality, it is also recognised that these improvements will take time. While aiming to improve water quality across the entire zone the Committee also support targeted mitigations that address nitrate hot spots and poor stream health in the area. Recommendation 5.1.2 sets out a staged regime for further nitrate reductions beyond the reductions that will be achieved by the implementation of Baseline GMP Loss Rates. The ZC acknowledge that for most land owners the first step for improving water quality will be the requirement to operate at a Baseline GMP Loss rate which could incur significant cost.

To achieve the water quality targets, current measured concentrations indicate that total reductions in the order of 30-35% are required. The reduction in nitrate leaching from properties in the Rangitata Orton Hotspot area achieving their Baseline GMP Loss rate is expected to be approximately 15%. The staged regime set out below proposes a further step beyond GMP at 2030 of 10% and sets out a subsequent step that may be required at 2035 of 5-10% to achieve the water quality targets based on the current state modelling. Improvements in water quality made by the reductions in nitrogen loss rates achieved by 2035 are expected to be visible in the environment and in water quality reporting by 2040.

The Committee recommends a monitoring programme be implemented to inform future State of the Environment Monitoring and enable a review of the targets and outcomes set by the Committee. A core component of the monitoring programme will be to determine if the planned future stepped percentage reductions beyond GMP, as established based on current science, would still need to apply to meet the water quality targets, or whether lesser or greater percentage reductions would be required in a subsequent plan change following new science.

The Committee considers that policy framework could further support this direction by requiring that land use consents to farm are granted with durations not exceeding ten years and would therefore only adopt one percentage reduction step beyond the current step. This would enable the renewal of farming land use consents to be relative to the five-yearly monitoring and ten yearly plan review cycles, and would ensure any future percentage reduction steps are relative to the future state.

The Committee also recognise the contribution of discharges from an industrial activity in the hotspot area. Clause (II) has been included in the regime to ensure that the burden of reducing nitrogen losses is shared between individual land owners and industry.

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**5.1.2 Recommendation: Additional Pathways for Achieving Water Quality Outcomes in the Rangitata Orton Hot Spot Area**

- I. The water quality targets for nitrate nitrogen in ground and surface water set out in Table 3 are to be achieved at or before 2040 by requiring high risk farming activities to reduce diffuse discharges of nitrogen beyond Baseline Good Management Practice Loss Rates of not less than a further:
  - a. 10% at 2030; and
  - b. 5 – 10% at 2035;
- II. In addition to clause (I), the water quality targets for ground and surface water set out in Table 3 are to be achieved at or before 2040 by requiring discharges from industrial activities to be reduced beyond current nitrogen discharge rates by up to 30% by 2035.
- III. In addition to clauses (I) and (II), regional council should continue to support non-statutory measures for nitrogen reductions beyond Baseline GMP Loss Rates in order to achieve water quality outcomes before the target date specified in Table 3.
- IV. To track progress towards achieving the water quality targets set out in Table 3, the regional council shall monitor and report on water quality and report the progress towards achieving the targets within 5 years of the OTOP sub-region plan change becoming operative, and subsequently at 5 yearly intervals, to evaluate the efficiency and effectiveness of measures being taken to achieve water quality outcomes.
- V. Where this monitoring and review demonstrates that the water quality targets are likely or unlikely to be met prior to 2040, this information shall inform future plan changes for the OTOP zone to adjust the percentage reductions beyond Baseline GMP Loss Rates required to achieve the water quality targets.
- VI. The OTOP sub-region plan change directs that land use consents to farm are granted with durations not exceeding 10 years and only adopt one percentage reduction step beyond GMP. This would enable the renewal of farming land use consents to be relative to the plan review cycle and ensure any future percentage reduction steps are relative to the future state.

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Table 3: Water Quality Targets for the Rangitata Orton Hotspot Area

Groundwater Province	Current state average (2012-2017) (mg/L)	Target - Annual average nitrate nitrogen (mg/L)	To be achieved at or before	Total percentage reduction required to achieve water quality target
Rangitata-Orton	8.4	5.65	2040	33%
Spring Fed Streams	Current State 5-year median (2011-2016) (mg/L)	Target – Annual median (mg/L)	To be achieved at or before	Total percentage reduction required to achieve water quality target
Old Orari Lagoon Outfall	9.1	6.9	2040	24%
Rhodes Stream Parke Road	9.8			30%

**Water Quantity**

An Environmental Flow and Allocation Regime for the Orari FMU was introduced as part of the development of the Canterbury Land and Water Regional Plan. This regime became operative in February 2017 and requires a consent review to align all existing abstractions of surface water and stream depleting groundwater with the regime. The regime is a time-stepped approach to increasing environmental flows and reducing allocation limits to better meet in-stream ecological, cultural and economic values through to 2040.

The Zone Committee recognise that there has been no significant change in values since the previous flow review, and that the benefit of the current regime change has not yet been observed. The Committee note that a review of resource consents as soon as the plan change is operative is an integral element of the package and is required to ensure effect is given to the regime. However, there are some changes required to the regime with regard to a minimum flow site on Coopers Creek, and the correction of the measurement site for minimum flows on Ohapi Creek (which was previously at Browns Rd but has since moved to Houstons).

Coopers Creek is a spring fed stream that lies between the Rangitata and Orari rivers in the upper plains of the Orari catchment. Historically, abstractions have been managed with minimum flow restrictions on Coopers Creek at State Highway 72. However, in 2013, some of

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these minimum flow conditions on existing consents were changed to a minimum flow on the mainstem of the Orari River as a minimum flow site for Coopers Creek was not included in the environmental flow regime for the Orari catchment. Since then, Environment Canterbury has undertaken a study to determine if a minimum flow restriction on the mainstem of the Orari River is a suitable proxy for low flow conditions at Coopers Creek. The investigation concluded that the Orari River is not a suitable proxy for managing abstractions on Coopers Creek, particularly for stream depleting groundwater abstractions. The Committee have considered the findings of this study and recommended the inclusion of a minimum flow site on Coopers Creek accordingly.

**5.1.3 Recommendations: Orari Environmental Flow and Allocation Regime**

- I. The Environmental Flow and Allocation Regime for the Orari River specified in Section 14 of the Land and Water Regional Plan is retained, subject to the following additions:
  - a. Provision of an additional minimum flow monitoring site and allocation limit on Coopers Creek at State Highway 72;
  - b. Correction of the measurement site for minimum flows on Ohapi Creek to the Browns Road flow recorder to capture the intent of the previous flow review in the Orari Catchment.
- II. Any new water permit or change to any existing water permit to abstract surface water or stream depleting groundwater, shall be subject to the environmental flow regime for the Orari Freshwater Management Unit as though it is operative.
- III. Consent holders in the Orari Conjunctive Use Zone who are considered to be directly connected to surface water have the opportunity to undertake field stream depletion testing to determine their degree of connectivity to surface water.

**5.2 Temuka Freshwater Management Unit**

***The recommendations for the Temuka Freshwater Management Unit are in addition to those that apply across the OTOP zone.***

The Temuka FMU covers an area of the zone that is of particular importance to Te Rūnanga o Arowhenua as a wāhi tūpuna, providing a variety of mahinga kai sites and areas of wāhi taonga. The philosophy of *ki uta ki tai* – the mountains to the sea – directs that all parts of the catchment are valued and protected, and that the health of all waterbodies is essential to realising the values within. The degradation of the waterbodies affects cultural, ecological and recreational values in this catchment in many ways, and the Committee acknowledge the importance of addressing water quality and water quantity in this area as a priority.

The Temuka River has three tributaries, the Kakahu, Hae Hae Te Moana and Waihi rivers (which originate in the Four Peaks Range,) and it drains into the eastern foothills of the Opihi River catchment. In summer, lowland spring-fed tributaries provide significant contributions to surface flows in the Waihi-Temuka River, notably the Raukapuka Creek, Dobies Creek and Taumatahau Stream. There is also a strong interaction between groundwater in the Orari and the Temuka catchments, with water leaving the Orari River and emerging in the Waihi Catchment. The catchment is considered over-allocated in respect of ecological and cultural values. The Temuka FMU also receives water from the Opihi Catchment through the Kakahu

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Irrigation Scheme. This water comes from the Opuha River and uses a combination of irrigation canals and natural waterways to convey water to shareholders for irrigation.

The long-term goal of the Committee is for environmental flow and allocation regimes to be established for each of the major sub-catchments in the Temuka FMU being the Waihi, Hae Hae Te Moana, Kakahu and Temuka Rivers. Establishing regimes in this manner acknowledges and protects the important values of these tributary rivers, as well as the Temuka River. Ecological information for flow regime establishment is currently limited to the mainstem of the Temuka River. Therefore, the Committee have recommended an environmental flow and allocation regime for the mainstem of the Temuka River to manage the catchment as a whole but have further recommended that environmental flow and allocation regimes are established as a sub catchment level in the future.

The Committee also acknowledge that Taumatakahu Stream is hydrologically different from the Temuka River and have recommended that this tributary be investigated to determine if a specific environmental flow and allocation regime can be established.

In addition to the zone wide water quality outcomes recommended in the ZIPA, the Committee have further recommended that the Temuka catchment is a priority area for the improvement of water quality, particularly with respect to non-statutory measures given its cultural significance.

### Water Quality

#### 5.2.1 Recommendations: Further Water Quality Outcomes for the Temuka Catchment

- I. That the Temuka River is a priority area for improving water quality in acknowledgement of its cultural significance.
- II. Non-statutory mitigations, particularly in respect of sediment, *E. coli*, and phosphorous to be prioritised for the Temuka Catchment.

### Water Quantity

#### Environmental Flow and Allocation Regimes

The Zone Committee considered options for establishing environmental flow and allocation regimes based on ecological, and cultural flow preferences, as well as the preferences of the Temuka Catchment Working Party. As site specific ecological flow information is currently limited to the mainstem of the Temuka River, the focus of the Working Party was at this site only. The Working Party was endorsed by the Zone Committee and its attendees comprised of affected consent holders, Zone Committee members, Central South Island Fish and Game and Timaru District Council.

The Zone Committee acknowledges the substantial amount of time and effort undertaken by the Working Party in establishing the Working Party's preferred environmental flow and allocation regimes for the Temuka River. The preferred regime comprises an increase in minimum flows 3 years after the OTOP sub region plan change becomes operative and has a particular focus on reducing A and B Block consented allocation at 3, 5 and 8 yearly intervals. It includes methods to achieve this such as prohibiting site to site transfers of surface water



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and/or stream depleting groundwater permits, and ensuring all allocation alterations imposed on existing and renewed consents has been demonstrated to be efficient.

The preferred regime also includes a step that will apply at 2035 with further minimum flow increases, reductions in allocation and appropriately set pro-rata partial restrictions to satisfy the requirements of the National Policy Statement for Freshwater Management 2017<sup>20</sup>. The recommended regime also includes an allocation of water for cultural purposes to apply 8 years from the plan being made operative.

The Committee have accepted the preferences of the Working Party and have recommended that in the event alternative water becomes available prior to 2035, that the 2035 regime commences earlier.

The Zone Committee has recommended further investigation into a high flow harvest take regime to allow for an alternate water source to supplement lost reliability. The intention is for this to be a true high flow regime, with appropriate consideration given to the cultural importance of the Temuka River in the setting of a minimum flow and allocation limit.

#### **5.2.2 Recommendation: Environmental Flow and Allocation Regimes in the Temuka Catchment**

**Note 1:** The Zone Committee did not reach consensus on this recommendation as the outcome does not address the concerns of Te Rūnanga o Arowhenua.

**Note 2:** Some Zone Committee members stated this recommendation does not go far and/or fast enough in order to give effect to all first order priorities contained in the Canterbury Water Management Strategy.

- I. An Environmental Flow and Allocation Regime is established for the Temuka River at Manse Bridge as set out in Tables 4 – 8.
- II. If alternate water becomes available in the Temuka Catchment to supplement any lost reliability from the proposed environmental flow and allocation regimes, uptake of this alternate water source should be prioritised, and the 2035 environmental flow and allocation regime commencement should be initiated as soon as possible thereafter.
- III. Site to site transfers of surface water, and/or stream depleting groundwater permits are prohibited in the Temuka Catchment.
- IV. The inclusion of a common consent expiry date in the Temuka Catchment of 1 January 2035 be considered for inclusion in the OTOP sub region plan change.
- V. The creation of a high flow harvest B Allocation Block for harvest takes comprising an allocation limit of 1500 L/s, and a minimum flow based on 90% of the naturalised mean flow of the Temuka River be investigated and considered during the drafting of the OTOP sub region plan change.

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<sup>20</sup> The recommended regimes are considered to satisfy the requirements of the National Policy Statement for Freshwater Management 2017 when the regimes set out in Tables 7 and 8 apply in 2035 to ensure the applicable minimum flows are not breached due to abstraction.

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- VI. An investigation to supplement Recommendation 4.9.3 (III)<sup>21</sup> is undertaken during plan drafting to consider the possibility of increasing the well interference effects threshold from 20% to 30% as currently set out in the Land and Water Regional Plan.
- VII. On any application to change conditions, renew or review an existing surface water or stream depleting groundwater permit, an annual allocation be determined based on demonstrated use in accordance with Method 1 of Schedule 10 of the Land and Water Regional Plan.
- VIII. Environmental Flow and Allocation Regimes be established for the Waihi, Hae Hae Te Moana, Kakahu River to align with the next plan review with supporting ecological information and in collaboration with Papatipu Rūnanga, consent holders and other stakeholders.
- IX. An Environmental flow and allocation regime be investigated and considered for the Taumatakahu Stream in consultation with Papatipu Rūnanga and consent holders for the forthcoming OTOP sub region plan change.

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<sup>21</sup> Groundwater abstraction is to be capped at its current volume of abstraction, and an additional allocation block provided to allow any identified stream depleting groundwater abstractions to abstract deep groundwater

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Table 4: Temuka River A Permits Environmental Flow and Allocation Regime – 3 Years from Operative

River	Flow Recorder	Minimum flow for A <sup>22</sup> Permits (L/s) at which abstraction must cease					Partial Restrictions			Allocation Limit (Ls) – Current
		Current		3 Years from Operative Plan			Current	3 Years from Operative Plan		A Permits
Temuka	Manse Bridge	Oct – Mar	Apr – Sep	Nov – Mar	Apr – Sep	Oct	50% stepped reduction in rate of take <sup>23</sup>	50% stepped reduction in rate of take <sup>24</sup>	75% stepped reduction in rate of take <sup>25</sup>	2503
		700	1000	850	1500	1200				

Table 5: Temuka River B Permits Environmental Flow and Allocation Regime – 3 Years from Operative

River	Flow Recorder	Minimum flow for B Permits (L/s) at which abstraction must cease							Partial Restrictions	Allocation Limit (Ls) – Current
		Current		3 Years from Operative Plan					3 Years from Operative Plan	B Permits
Temuka	Manse Bridge	Oct – Mar	Apr – Sep	Nov – Mar	Apr	May – Aug	Sep	Oct	50% stepped reduction in rate of take <sup>26</sup>	784
		1600	1900	1750	2100	2400	2100	1900		

<sup>22</sup> Excluding community drinking water supply abstractions

<sup>23</sup> A 50% reduction in rate of take applies when the flow at the flow recorder is at or below 1300 L/s

<sup>24</sup> A 50% reduction in rate of take applies when the flow at the flow recorder is at or below the applicable minimum flow + 625 L/s

<sup>25</sup> A 75% reduction in rate of take applies when the flow at the flow recorder is at or below the applicable minimum flow + 300 L/s

<sup>26</sup> A 50% reduction in rate of take applies when the flow at the flow recorder is at or less than the applicable minimum flow + 390 L/s

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Table 6: Temuka River A and B Permits Staged Allocation Regime

River	Time Period	Permit Type		Cultural Allocation
		A	B	
Temuka	3 Years from Operative Plan	2350	600	N/A
	5 Years from Operative Plan	2150	400	
	8 Years from Operative Plan	1900 <sup>27</sup>		
	8 Years from Operative Plan	N/A		100 L/s

Table 7: Temuka River A Permits Environmental Flow and Allocation Regime – 2035

River	Flow Recorder	Minimum flow for A <sup>28</sup> Permits (L/s) at which abstraction must cease				Partial Restrictions	Allocation Limit (Ls) – 2035
		2035				2035	A Permits
Temuka	Manse Bridge	Nov – Feb	Mar	Apr – Sep	Oct	Pro-Rata <sup>29</sup>	1600
		1050	1200	1500	1200		

Table 8: Temuka River B Permits Environmental Flow and Allocation Regime – 2035

River	Flow Recorder	Minimum flow for B Permits (L/s) at which abstraction must cease				Partial Restrictions	Allocation Limit (Ls) – 2035
		2035				2035	B Permits
Temuka	Manse Bridge	Nov – Feb 2650	Mar 2800	Apr – Sep 3100	Oct 2800	Pro-Rata <sup>30</sup>	400

<sup>27</sup> Includes cultural allocation of 100 L/s

<sup>28</sup> Excluding community drinking water supply abstractions

<sup>29</sup> Pro rata means the proportional reduction of a take between the point at which the take is required to start reducing and the minimum flow. For the Temuka River, pro rata restrictions apply when the recorded flow at the flow recorder is less than the minimum flow and the sum total of the A Allocation Limit.

<sup>30</sup> Pro rata means the proportional reduction of a take between the point at which the take is required to start reducing and the minimum flow. For the Temuka River, pro rata restrictions apply when the recorded flow at the flow recorder is less than the minimum flow and the sum total of the B Allocation Limit.

### 5.3 Opihi Freshwater Management Unit

***The recommendations for the Opihi Freshwater Management Unit are in addition to those that apply across the OTOP zone.***

The waterbodies that make up the Opihi FMU have high cultural and recreational values, providing for mahinga kai, water sports and related activities. A mātaimai reserve covers much of the Opihi River and its lagoons and tributaries. Recent deteriorations in water quality have had a negative impact on cultural and ecological values, and on recreational activities within the area. The Fairlie basin area has high concentrations of nitrate nitrogen in groundwater and requires targeted reductions beyond GMP Loss Rates to achieve the recommended water quality limits.

Behind the Opuha Dam is the artificially created Lake Opuha. The lake's current primary purpose is storing water for environmental flows in the Opuha and Opihi Rivers and providing water for irrigation and community drinking water supplies. Lake Opuha also serves as a locally-valued recreational resource for boating, fishing and swimming. Water quality of the lake is moderately enriched with nutrients but does not exhibit issues such as significant algal blooms. It is important for the lake and the downstream environment that no further increase in nutrient enrichment occurs. Microbial quality of the lake is generally good and is considered suitable for swimming.

The Opuha Dam augments flows in the Opuha and Opihi rivers. It supplies reliable water for irrigation through the Opuha scheme and to the urban and industrial users of Timaru via the Timaru District Council's community water take. There are three irrigation schemes that draw water from the Opuha and Opihi rivers and there are also shareholder irrigators who operate directly off those two rivers as well as the Te Ana a Wai, the Upper Opihi and North and South Opuha rivers. However, the Committee also acknowledge that the tributaries do not directly benefit from releases from the Opuha Dam as they are not augmented.

The Zone Committee have been charged with improving freshwater management in an area with complex hydrology and an economy that relies in part on water for irrigation. Ensuring more efficient use of the available water resource and addressing over-allocation are two pathways to improvement. The environmental flow and allocation recommendations contained in this document have been developed in consideration of the ecological and cultural values of each tributary with input from Papatipu Rūnanga. The Committee have also considered the preferences of the Opihi Flow and Allocation Working Party.

The Committee acknowledge the contribution of the dam to the catchment, however concerns about water quantity remain, particularly the over-allocation of freshwater. As the catchment is operating under an environmental flow and allocation regime that has been in place since 2000, there is a need to address the issues relating to water quantity.

#### **Water Quantity**

The Committee seek flow regimes that provide for healthy and resilient ecological ecosystems, cultural values, community and stock water abstractions, and recreational and amenity values, while recognising the need to provide for irrigation abstraction and abstraction to storage. To address over-allocation of these freshwater resources, the Committee recommend changes to the existing environmental flow and allocation regime in the Opihi catchment to establish

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an environmental flow and allocation regime for each of the major sub-catchments. Setting allocation limits in this way acknowledges and protects values within the mainstem and the tributaries of the waterbodies of the Opihi FMU. The Committee are aware that this measure will have an impact on land use economics, so have suggested time frames that will enable consent holders to plan and prepare for any changes to minimum flows.

Recent experience managing flows in very dry conditions and the learnings developed by the Opuha Environmental Flow Release Advisory Group (OEFrag) have been built upon by the Adaptive Management Working Group (AMWG). The Committee received a number of presentations from AMWG, and also Opuha Water Limited, who have sought a number of outcomes from the Healthy Catchments Project. These have been incorporated in the recommendations that follow.

**5.3.1 Recommendation: Augmentation of the Opuha and Opihi Rivers**

- I. The OTOP sub-region plan change includes an Adaptive Management Regime for the augmentation of the Opuha and Opihi rivers that provides for:
  - a. Environmental Flows;
  - b. Mahinga Kai Values;
  - c. Flow Variability;
  - d. Flushing Flows and Freshes;
  - e. All flow gains achieved by minimum flow increases on the Upper Opihi and Te Ana Wai Rivers remaining in the mainstem of the Opihi River, and not being available for abstraction, and should be reflected in the minimum flows measured at Saleyards Bridge.
  - f. Community Drinking Water Supplies;
  - g. Irrigation Abstractions;
  - h. The Opuha Environmental Flow Release Advisory Group (OEFrag);
  - i. A flow regime that can be adapted to reflect the available water in the catchment and that recognises the priority of flows set out in clauses (a) – (h) above.
- I. The OTOP sub-region plan change includes a consenting pathway that provides for the amalgamation of resource consents affiliated to Opuha Water Limited.
- II. The OTOP sub-region plan change retains Saleyards Bridge as the measurement location for releases from the Opuha Dam.

**Environmental Flow and Allocation Regimes**

The Zone Committee considered options for establishing environmental flow and allocation regimes based on ecological, and cultural flow preferences, as well as the preferences of the Opihi Flow and Allocation Working Party. A Flow and Allocation Working Party was endorsed by the Zone Committee and established by Opuha Water Limited for further targeted engagement with affected consent holders. The Working Party focussed on the main



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tributaries of the Opihi River, being the North Opuha, South Opuha, Upper Opihi and Te Ana Wai rivers. Additional to two irrigator representatives from each of these four main tributaries, the Working Party membership also comprised Zone Committee members, Central South Island Fish and Game and Timaru District Council, with coordination and technical advisory support from Opuha Water Limited.

The Zone Committee acknowledges the substantial amount of time and effort undertaken by the Working Party in establishing preferred environmental flow and allocation regimes for each of the tributaries and providing these regimes to the Zone Committee as a comprehensive package of recommendations. The Committee has accepted the Flow and Allocation Working Party's environmental flow and allocation regimes for each of the tributaries as a first step in minimum flow increases to occur three years subsequent to the OTOP sub region plan change becoming operative. In response to feedback received from the wider community, the Committee have further recommended a second step of minimum flow increases to occur eight years subsequent to the OTOP sub region plan change becoming operative.

Some additional allocation has been proposed from the mid-range flows harvested as B block from each of the main tributaries. The intention for the additional allocation is to provide the opportunity for irrigators who may have some loss of reliability from changing minimum flows and partial restriction regimes for the tributary A blocks to offset this loss with additional water from the B block. The additional allocation is intended to be available to be applied for by all abstractors.

The Committee's recommended A and B Block environmental flow and allocation regimes for the North and South Opuha, Upper Opihi and Te Ana Wai Rivers are set out in Tables 9 –20 of this section.

#### 5.3.2 Recommendation: Environmental Flow and Allocation Regimes for the Opihi Catchment

**Note:** The Zone Committee did not reach consensus on this recommendation as the outcome does not address the concerns of Te Rūnanga o Arowhenua.

- I. Environmental Flow and Allocation Regimes are established for the South Opuha, North Opuha, Upper Opihi and Te Ana Wai rivers as set out in Tables 9 – 19.

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**South Opuha River - 3 Years from Operative Plan (A Permit)**

Table 9 sets out the recommended A Permit environmental flow and allocation regime for the South Opuha River that is proposed to apply 3 years subsequent to the OTOP sub region plan change becoming operative.

Table 9: South Opuha River A Permit Environmental Flow and Allocation Regime – 3 Years from Operative Plan

River	Flow Recorder	Minimum flow for AA, AN and BA Permits <sup>31</sup> (L/s)												Partial Restrictions	Allocation Limits	
		Current		3 Years from Operative Plan										3 Years from Operative Plan	CDWS <sup>32</sup>	BA
South Opuha	Monument Bridge	1 Sep – 30 Apr	1 May – 31 Aug	1 Sep – 30 Sep	1 Oct – 14 Oct	15 Oct – 30 Nov	Dec	Jan – Feb	1 Mar – 14 Mar	15 Mar – 31 Mar	1 Apr – 14 Apr	15 Apr – 30 Apr	May – Aug	Pro Rata <sup>33</sup>	97	634.4
		500	800	1000	900	800	550	520	550	600	800	1000	1200			

<sup>31</sup> Excluding community drinking water supply abstractions

<sup>32</sup> Existing Community Drinking Water Supply Consented Allocation

<sup>33</sup> Pro rata means the proportional reduction of a take between the point at which the take is required to start reducing and the minimum flow. For the South Opuha River, pro rata restrictions apply when the recorded flow at the flow recorder is less than the minimum flow specified, and the sum total of the BA allocation.

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**South Opuha River - 8 Years from Operative Plan (A Permit)**

Table 10 sets out the recommended A Permit environmental flow and allocation regime for the South Opuha River that is proposed to apply 8 years subsequent to the OTOP sub region plan change becoming operative.

Table 10: South Opuha River A Permit Environmental Flow and Allocation Regime – 8 Years from Operative

River	Flow Recorder	Minimum flow for AA, AN and BA Permits <sup>34</sup> (L/s)										Partial Restrictions	Allocation Limits	
		8 Years from Operative Plan										8 Years from Operative Plan	CDWS <sup>35</sup>	BA
South Opuha	Monument Bridge	1 Sep – 30 Sep	1 Oct – 14 Oct	15 Oct – 30 Nov	Dec	Jan – Feb	1 Mar – 14 Mar	15 Mar – 31 Mar	1 Apr – 14 Apr	15 Apr – 30 Apr	May – Aug	Pro Rata <sup>36</sup>	97	634.4
		1,000	900	800	600	600	600	600	800	1000	1200			

<sup>34</sup> Excluding community drinking water supply abstractions

<sup>35</sup> Existing Community Drinking Water Supply Consented Allocation

<sup>36</sup> Pro rata means the proportional reduction of a take between the point at which the take is required to start reducing and the minimum flow. For the South Opuha River, pro rata restrictions apply when the recorded flow at the flow recorder is less than the minimum flow specified, and the sum total of the BA allocation.

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**South Opuha River – B Permit**

Table 11 sets out the recommended B Permit environmental flow and allocation regime for the South Opuha River that is proposed to apply following the OTOP sub region plan change becoming operative.

*Table 11: South Opuha River B Permit Environmental Flow and Allocation Regime*

River	Flow Recorder	Minimum flow for BN Permits (L/s)	Partial Restrictions	Lake Opuha Level	Allocation Limit
		From Operative Plan	From Operative Plan	From operative plan	BN
South Opuha	Monument Bridge	All year 3000	Pro Rata <sup>37</sup>	391.2 <sup>38</sup>	800

<sup>37</sup> Pro rata means the proportional reduction of a take between the point at which the take is required to start reducing and the minimum flow. For the South Opuha River, pro rata restrictions apply when the recorded flow at the flow recorder is less than the minimum flow specified, and the sum total of the BN allocation.

<sup>38</sup> Lake level above which BN takes may occur.

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**North Opuha River – 3 Years from operative Plan (A Permit)**

Table 12 sets out the recommended A Permit environmental flow and allocation regime for the North Opuha River that is proposed to apply 3 years subsequent to the OTOP sub region plan change becoming operative.

Table 12: North Opuha River A Permit Environmental Flow and Allocation Regime – 3 Years from Operative Plan

River	Flow Recorder	Minimum flow for AA, AN and BA Permits <sup>39</sup> (L/s)				Partial Restrictions		Allocation Limits (L/s)			
		Current		3 years from operative		3 years from operative					
						Part of a Water User Group	Not Part of a Water User Group	AA	AN	BA	CDWS <sup>40</sup>
North Opuha	Clayton Road Bridge	1 Oct – 14 Apr	15 Apr – 30 Sep	1 Oct – 14 Apr	15 Apr – 30 Sep	Pro Rata <sup>41</sup>	50% stepped reduction in rate of take <sup>42</sup>	61	175	7	7.5
		850	1000	815	900		100% stepped reduction in rate of take <sup>42</sup>				

<sup>39</sup> Excluding community drinking water supply abstractions

<sup>40</sup> Existing Community Drinking Water Supply Consented Allocation

<sup>41</sup> Pro rata means the proportional reduction of a take between the point at which the take is required to start reducing and the minimum flow. For the North Opuha River, pro rata restrictions will apply to members of a Water User Group (WUG) when the recorded flow at the flow recorder is less than the minimum flow, and the sum total of the AA, AN and BA allocation.

<sup>42</sup> For consent holders not part of a Water User Group, a 50% reduction in rate of take applies when the flow at the flow recorder is less than the applicable minimum flow and the sum total of the AA, AN and BA allocation.

<sup>43</sup> For consent holders not part of a Water User Group, a 100% reduction in rate of take applies when the flow at the flow recorder is less than the applicable minimum flow and 50% of the sum total of the AA, AN and BA allocation.

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**North Opuha River – B Permit**

Table 13 sets out the recommended B Permit environmental flow and allocation regime for the North Opuha River that is proposed to apply following the OTOP sub region plan change becoming operative.

*Table 13: North Opuha River B Permit Environmental Flow and Allocation Regime*

River	Flow Recorder	Minimum flow for BN Permits (L/s)	Partial Restrictions	Lake Opuha Level	Allocation Limit
		From Operative Plan	From Operative Plan	From Operative Plan	BN
North Opuha	Clayton Road	All year			
		2300	Pro Rata <sup>44</sup>	391.2 <sup>45</sup>	500

<sup>44</sup> Pro rata means the proportional reduction of a take between the point at which the take is required to start reducing and the minimum flow. For the North Opuha River, pro rata restrictions apply when the recorded flow at the flow recorder is less than the minimum flow specified, and the sum total of the BN allocation.

<sup>45</sup> Lake level above which all BN takes may occur.



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**Upper Opihi River – 3 Years from Operative Plan (A Permit)**

Table 14 sets out the recommended A Permit environmental flow and allocation regime for the Upper Opihi River that is proposed to apply 3 years subsequent to the OTOP sub region plan change becoming operative.

Table 14: Upper Opihi River A Permit Environmental Flow and Allocation Regime – 3 Years from Operative Plan

River	Flow Recorder	Minimum flow for AN and BA Permits <sup>46</sup> (L/s)							Partial Restrictions		Allocation Limits		
									3 Years from Operative Plan				
		Current		3 Years from Operative Plan					Part of a Water User Group	Not part of a Water User Group	AN	BA	CDWS <sup>47</sup>
Upper Opihi	Rockwood	Summer	Winter	Nov	Dec – Feb	Mar	Apr-Sep	Oct	Pro Rata <sup>48</sup>	50% stepped reduction in rate of take <sup>49</sup>	65	409	122
		790	1280	950	850	900	1500	1400		100% stepped reduction in rate of take <sup>50</sup>			

<sup>46</sup> Excluding community drinking water supply abstractions

<sup>47</sup> Existing Community Drinking Water Supply Consented Allocation

<sup>48</sup> Pro rata means the proportional reduction of a take between the point at which the take is required to start reducing and the minimum flow. In the Upper Opihi river, for consent holders part of a Water User Group pro rata restrictions apply when the recorded flow at the flow recorder is less than the minimum flow specified, and the sum total of the AN and BA allocation.

<sup>49</sup> For consent holders not part of a Water User Group, a 50% reduction in rate of take applies when the flow at the flow recorder is less than the applicable minimum flow and the sum total of the AN and BA allocation.

<sup>50</sup> For consent holders not part of a Water User Group, a 100% reduction in rate of take applies when the flow at the flow recorder is less than the applicable minimum flow and 50% of the sum total of the AN and BA allocation.

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**Upper Opihi River – 8 Years from Operative Plan (A Permit)**

Table 15 sets out the recommended A Permit environmental flow and allocation regime for the Upper Opihi River that is proposed to apply 8 years subsequent to the OTOP sub region plan change becoming operative.

*Table 15: Upper Opihi River A Permit Environmental Flow and Allocation Regime – 8 Years from Operative*

River	Flow Recorder	Minimum flow for AN and BA Permits <sup>51</sup> (L/s)					Partial Restrictions		Allocation Limits		
							8 Years from Operative Plan				
		8 Years from Operative Plan					Part of a Water User Group	Not part of a Water User Group	AN	BA	CDWS <sup>52</sup>
Upper Opihi	Rockwood	Nov	Dec – Feb	Mar	Apr-Sep	Oct	Pro Rata <sup>53</sup>	50% stepped reduction in rate of take <sup>54</sup>	65	409	122
		1000	1000	1000	1500	1400		100% stepped reduction in rate of take <sup>55</sup>			

<sup>51</sup> Excluding community drinking water supply abstractions

<sup>52</sup> Existing Community Drinking Water Supply Consented Allocation

<sup>53</sup> Pro rata means the proportional reduction of a take between the point at which the take is required to start reducing and the minimum flow. In the Upper Opihi river, for consent holders part of a Water User Group pro rata restrictions apply when the recorded flow at the flow recorder is less than the minimum flow specified, and the sum total of the AN and BA allocation.

<sup>54</sup> For consent holders not part of a Water User Group, a 50% reduction in rate of take applies when the flow at the flow recorder is less than the applicable minimum flow and the sum total of the AN and BA allocation.

<sup>55</sup> For consent holders not part of a Water User Group, a 100% reduction in rate of take applies when the flow at the flow recorder is less than the applicable minimum flow and 50% of the sum total of the AN and BA allocation.

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**Upper Opihi– B Permit**

Table 16 sets out the recommended B Block environmental flow and allocation regime for the Upper Opihi River that is proposed to apply following the OTOP sub region plan change being operative.

Table 16: Upper Opihi River B Permit Environmental Flow and Allocation Regime

River	Flow Recorder	Minimum flow for BN Permits (L/s)	River	Flow Recorder	Minimum flow for BN Permits (L/s)	Minimum flow for BN Permits (L/s)	Partial Restrictions	Allocation Limit
		From Operative Plan			Current	From Operative plan	From Operative Plan	BN
Upper Opihi	Rockwood	All year	Opihi mainstem	SH1	15,000	12,000	Pro Rata <sup>56</sup>	800
		4500						

<sup>56</sup> Pro rata means the proportional reduction of a take between the point at which the take is required to start reducing and the minimum flow. For the Upper Opihi River, pro rata restrictions apply when the recorded flow at the flow recorder is less than the minimum flow specified for either river, and the sum total of the BN allocation.

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**Te Ana Wai River – 3 Years from Operative Plan (A Permit)**

Table 17 sets out the recommended A Block environmental flow and allocation regime for the Te Ana Wai River that is proposed to apply 3 years subsequent to the OTOP sub region plan change becoming operative.

Table 17: Te Ana Wai River A Permit Environmental Flow and Allocation Regime – 3 Years from Operative Plan

Location of recorder site, or site where flow is measured	Current	Environmental flows and partial restrictions 3 years from operative						Allocation Limits				
	Minimum flow for all consented A block takes	Applicable time period	Minimum flow (flow at which all abstraction ceases) (L/s)	Residual flow (flow downstream of all abstraction) (L/s)	Part of Water User Group		Not Part of Water User Group		AA	BA	AN	CDW
					Partial restriction	Flow at recorder site (L/s)	Partial restriction	Flow at recorder site (L/s)				
Cave	400	01 Oct – 31 Oct; 1 Apr – 30 Apr	700	471	50%	800	50%	Minimum flow + 284 L/s <sup>57</sup>	250.2	16.71	17.2	96
		01 Nov - 14 Nov; 15 Mar - 31 Mar	550	322		650						
		15 Nov – 31 Nov	500	272		600	100%	Minimum flow + 142 L/s <sup>58</sup>				
		01 Dec - 14 Mar	450	222		550						
	600	1 May – 31 July	1200	972		1300						
		01 Aug – 31 Aug	1100	872		1200						
	500	1 Sept – 30 Sept	900	671		1000						

<sup>57</sup> In the Te Ana Wai River, for consent holders not part of a Water User Group (WUG), a 50% reduction in rate of take is required whenever the flow at the recorder is less than the applicable monthly minimum flow, and the sum total of the AA, BA and AN consents.

<sup>58</sup> In the Te Ana Wai River, for consent holders not part of a Water User Group (WUG), a 100% reduction in rate of take is required whenever the flow at the recorder is less than 50% of the applicable monthly minimum flow, and the sum total of the AA, BA and AN consents.

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**Te Ana Wai River – 8 Years from Operative Plan (A Permit)**

Table 18 sets out the recommended A Block environmental flow and allocation regime for the Te Ana Wai River that is proposed to apply 8 years subsequent to the OTOP sub region plan change becoming operative.

Table 18: Te Ana Wai River A Permit Environmental Flow and Allocation Regime – 8 Years from Operative Plan

River	Flow Recorder	Applicable time period	Minimum flow for AA, BA and AN Permits	Partial Restrictions	Allocation Limits			
				8 Years from Operative Plan	AA	BA	AN	CDWS
Te Ana Wai	Cave	01 Oct – 31 Oct; 1 Apr – 30 Apr	700	Pro Rata <sup>59</sup>	250.2	16.71	17.2	96
		01 Nov – 14 Nov; 15 Mar – 31 Mar	550					
		15 Nov – 31 Nov	500					
		01 Dec – 14 Mar	450					
		1 May – 31 July	1200					
		01 Aug – 31 Aug	1100					
		1 Sept – 30 Sept	900					

<sup>59</sup> Pro rata means the proportional reduction of a take between the point at which the take is required to start reducing and the minimum flow. For the Te Ana Wai River, pro rata restrictions apply when the recorded flow at the flow recorder is less than the minimum flow specified, and the sum total of the AA, BA and AN allocation.

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**Te Ana Wai River – B Permit**

Table 19 sets out the recommended B Block environmental flow and allocation regime for the Te Ana Wai River that is proposed to apply following the OTOP sub region plan change becoming operative.

Table 19: Te Ana Wai River B Permit Environmental Flow and Allocation Regime

River	Flow Recorder	Minimum flow for BN Permits (L/s)	River	Flow Recorder	Minimum flow for BN Permits (L/s)	Minimum flow for BN Permits (L/s)	Partial Restrictions	Allocation Limit
		From Operative Plan			Current	From Operative plan	From Operative Plan	BN
Te Ana Wai	Cave	All year	Opihi mainstem	SH1	15,000	12,000	Pro Rata <sup>60</sup>	800
		2500						

<sup>60</sup> Pro rata means the proportional reduction of a take between the point at which the take is required to start reducing and the minimum flow. For the Te Ana Wai River, pro rata restrictions apply when the recorded flow at the flow recorder is less than the minimum flow specified for either river, and the sum total of the BN allocation.



### Water Quality

The Zone Committee note the challenges in the Opihi FMU, particularly the nitrate hot spot in the Fairlie Basin area. While the Committee understand the need for a pathway to improving surface and groundwater quality, it is also recognised that these improvements will take time. The Ashwick Opuha Water Race network that services 4,500 hectares of land in the Fairlie Basin has been identified as a potential contributor to this hot spot area. The Committee have acknowledged this and consider alternatives should be considered as part of the renewal of the Mackenzie District Council water permit in 2020. The Committee also support targeted mitigations that address the nitrate hot spot in the Fairlie Basin.

Recommendation 5.3.4 sets out a staged regime for further nitrate reductions beyond the reductions that will be achieved by the implementation of Baseline GMP Loss Rates. The ZC acknowledge that for most land owners the first step to improve water quality will be the requirement to operate at a Baseline GMP Loss rate, which could incur significant cost.

To achieve the water quality target the current measured concentrations indicate that reductions of up to 20% are required. The expected reduction in nitrate leaching beyond the root zone when properties in the Fairlie Basin area achieve their Baseline GMP Loss rate is approximately 10%. The staged regime set out below proposes a further step of 10% beyond GMP at 2030. Improvements in water quality made by the reductions in nitrogen loss rates achieved by 2030 are expected to be visible in the environment and in water quality reporting by 2035.

The Committee recommends a monitoring programme to inform future State of the Environment Monitoring, efficiency and effectiveness evaluations of the OTOP plan change and the targets and outcomes set by the Committee be implemented. A core component of the monitoring programme will be to determine if the planned future stepped percentage reductions beyond GMP, as established based on current science, would still need to apply to meet the water quality targets, or whether lesser or greater percentage reductions would be required in a subsequent plan change as a result of new science.

The Committee considers that policy framework could further support this direction by requiring that land use consents to farm are granted with durations not exceeding ten years and would therefore only adopt one percentage reduction step beyond the current step. This would enable the renewal of farming land use consents to be relative to the five-yearly monitoring and ten yearly plan review cycles, and would ensure any future percentage reduction steps are relative to the future state.

#### 5.3.3 Recommendations: Water Quality Outcomes for Lake Opuha

- I. Maintain trophic status level of Lake Opuha within current attribute states and with the maximum annual Trophic Level Index (TLI) to not exceed 4.
- II. Within five years annual median total nitrogen concentration of Lake Opuha does not deteriorate beyond Attribute State B.
- III. Annual median total phosphorous concentration of Lake Opuha does not deteriorate beyond Attribute State A.

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- IV. Annual median chlorophyll a concentration of Lake Opuha does not deteriorate beyond Attribute State B midpoint (3.5 mg chl. a/ml) in accordance with NPS-FM.

**5.3.4 Recommendations: Additional Pathways for Meeting Water Quality Limits in the Fairlie Basin Nitrate Hot Spot Area**

- I. The water quality target for nitrate nitrogen in groundwater set out in Table 20 is to be achieved at or before 2035 by requiring high risk farming activities to reduce diffuse discharges of nitrogen beyond Baseline Good Management Practice Loss Rates of not less than a further 10% at 2030.
- II. In addition to clauses (I), regional council should continue to support non-statutory measures for nitrogen reductions beyond Baseline GMP Loss Rates in order to achieve water quality outcomes before the target date specified in Table 20.
- III. To track progress towards achieving the water quality targets set out in Table 20, the regional council shall monitor and report on water quality and report the progress towards achieving the targets within 5 years of the OTOP sub-region plan change becoming operative, and subsequently at 5 yearly intervals, to evaluate the efficiency and effectiveness of measures being taken to achieve water quality outcomes.
- IV. Where this monitoring and review demonstrates that the water quality target is likely or unlikely to be met prior to 2035, this information shall inform future plan changes for the OTOP zone to adjust the percentage reduction required to achieve the water quality targets.
- V. The OTOP sub-region plan change directs that land use consents to farm are granted with durations not exceeding 10 years and only adopt one percentage reduction step beyond GMP. This would enable the renewal of farming land use consents to be relative to the plan review cycle and ensure any future percentage reduction steps are relative to the future state.

Table 20: Water Quality Target for Groundwater Nitrates in the Fairlie Basin Hotspot Area

Groundwater Province	Current state average (2012-2017) (mg/L)	Target - Annual average nitrate nitrogen (mg/L)	To be achieved at or before	Total percentage reduction required to achieve water quality target
Fairlie Basin	6.9	5.65	2035	18%

## 5.4 Timaru Freshwater Management Unit

*The recommendations for the Timaru Freshwater Management Unit are in addition to those that apply across the OTOP zone.*

### Water Quality

The Timaru FMU covers an area that includes the township of Timaru. The waterbodies, particularly Waitarakao/Washdyke Lagoon, are of significance to Papatipu Rūnanga, and were traditionally used for mahinga kai. A mātaimai reserve covers the area of the Waitarakao/Washdyke Lagoon and the Seadown Drain. While the area has strong cultural values and a rich history, these values are affected by the deterioration in both water quality and quantity. The deterioration is the result of changes in land use, both rural and urban, and additional pressures, including stormwater discharges and other urban/industrial pollutants. Recent work by the Waitarakao/Washdyke Taskforce, which included membership from Papatipu Rūnanga, Zone Committee, Regional Council, Timaru District Council and Department of Conservation, has provided the basis for many of the recommendations that follow. The Committee acknowledge the work and commitment of those involved.

The water quality recommendations in this section for nitrates primarily aim to meet drinking water quality standards in Levels Plain groundwater. The Committee acknowledge that these measures alone will not achieve national bottom lines in Waitarakao/Washdyke Lagoon. The Committee also recognise that although high *E. coli* levels within Waitarakao Washdyke Lagoon are primarily related to large bird populations that inhabit the area, management of sources of faecal contaminants from agricultural and stormwater are still important.

The Committee have expressed a desire to move to the 99% level of species protection for all waterways in the area from toxicants from stormwater discharges, however, they also realise the need to make recommendations that, while aspirational, are realistic and achievable. The Committee support the approach in the Canterbury Land and Water Regional Plan for stormwater and toxicants for a 90% level of species protection to be achieved by 2025 for stormwater discharges. However, they also consider the 95% threshold for species protection in Schedule 5 of the LWRP should be achieved for any new discharges of stormwater into a reticulated network.

### Levels Plain Nitrate Hotspot

The Zone Committee note the challenges in the Timaru FMU, particularly the nitrate hot spot in the Levels Plains area and the elevated nutrient concentrations in the Waitarakao/Washdyke Lagoon and its tributaries. Recent monitoring of the Waitarakao/Washdyke Lagoon catchment has shown that not only does the lagoon fail to meet the national bottom-line for total nitrogen and total phosphorus, some of the tributaries in the catchment also do not meet the national bottom line for nitrate toxicity. The elevated groundwater nitrate concentrations across the Levels Plains are significant contributors to elevated nitrogen concentrations in the lagoon and tributaries. Other industrial and stormwater discharges within the Washdyke industrial area are also likely contributors but there is currently insufficient information to determine the relative contribution from these sources.

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While the Committee understand the need for a pathway to improve water quality, it is also recognised that these improvements will take time. While aiming to improve water quality across the entire zone, the Committee also support targeted mitigations that address the nitrate hot spot in Levels Plains and Waitarakao/Washdyke catchment. The Committee also recognise that additional interventions and mitigations will be needed to address water quality issues of Waitarakao/Washdyke Lagoon.

Recommendation 5.4.3 sets out a staged regime for further nitrate reductions beyond what will be achieved by the implementation of Baseline GMP Loss Rates. The ZC acknowledge that for most land owners the first step to improving water quality will be the requirement to operate at a Baseline GMP Loss rate, which could incur significant cost.

To achieve the water quality targets for groundwater and tributaries of Waitarakao (Table 22), current measured concentrations indicate that reductions in the order of 30% are required. The expected reduction in nitrate leaching from rural properties in the Levels Plains Hotspot area achieving their Baseline GMP Loss rate is approximately 15%. The staged regime set out below proposes a further step beyond GMP at 2030 of 10% and sets out a subsequent step that may be required at 2035 of 5-10% to achieve the water quality targets based on the current state modelling. Improvements in water quality made by the reductions in nitrogen loss rates achieved by 2035 are expected to be visible in the environment and in water quality reporting by 2040.

The Committee recommends a monitoring programme to inform future State of the Environment Monitoring, efficiency and effectiveness evaluations of the OTOP plan change and the targets and outcomes set by the Committee be implemented. A core component of the monitoring programme will be to determine if the planned future stepped percentage reductions beyond GMP, as established based on current science, would still need to apply to meet the water quality targets, or whether lesser or greater percentage reductions would be required in a subsequent plan change as a result of new science.

The Committee considers that policy framework could further support this direction by requiring that land use consents to farm are granted with durations not exceeding ten years and would therefore only adopt one percentage reduction step beyond the current step. This would enable the renewal of farming land use consents to be relative to the five-yearly monitoring and ten yearly plan review cycles, and would ensure any future percentage reduction steps are relative to the future state.

The Committee also recognise the contribution of point source discharges from an industrial activity in the hotspot area. Clause (II) has been included in the regime to ensure that the burden of reducing nitrogen losses is shared between individual land owners and industry.

**5.4.1 Recommendations: Water Quality Outcomes for the Timaru FMU**

- I. Stormwater and Toxicants:
  - a. All urban waterways in the Timaru FMU receiving discharges of stormwater from a reticulated network are to meet the Receiving Water Body Standards and 95% level of species protection in accordance with Schedule 5 of the Land and Water Regional Plan by 2035.

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- II. Waitarakao / Washdyke Lagoon:
  - a. Chlorophyll A to continue meeting Attribute State A in accordance with the NPS-FM.
  - b. Total nitrogen and total phosphorous to meet NPS-FM 2017 National Bottom Line by 2050.
- III. Saltwater Creek, Washdyke Creek, and Seadown Drain
  - a. These waterbodies do not deteriorate below Attribute State C for nitrate nitrogen and *E. coli*.

**5.4.2 Recommendations: Pathways to Achieving Water Quality Outcomes in the Timaru FMU**

- I. Regional council classify Seadown Drain as a "spring fed plains" waterway to protect in-stream values and receiving environment, and ensure stock are excluded to manage inputs to the lagoon.
- II. Stormwater management plan to address further requirement to meet 95% species protection by 2035.

**5.4.3 Recommendations: Additional Pathways for Meeting Water Quality Limits in the Levels Plains Hot Spot Area**

- I. The water quality targets for nitrate nitrogen in ground and surface water set out in Tables 21 and 22 are to be achieved at or before the specified dates by requiring high risk farming activities to reduce diffuse discharges of nitrogen beyond Baseline Good Management Practice Loss Rates of not less than a further:
  - a. 10% at 2030; and
  - b. 5-10% at 2035;
- II. In addition to clause (I), the water quality targets for ground and surface water set out in Tables 21 and 22 are to be achieved at or before the specified dates by requiring discharges from industrial activities to be reduced beyond current nitrogen discharge rates by up to 30% by 2035.
- III. In addition to clauses (I) and (II), regional council should continue to support non-statutory measures for nitrogen reductions beyond Baseline GMP Loss Rates in order to achieve water quality outcomes before the target dates specified in Tables 21 and 22.
- IV. To track progress towards achieving the water quality targets set out in Tables 21 and 22, the regional council shall monitor and report on water quality and report the progress towards achieving the targets within 5 years of the OTOP sub-region plan change becoming operative, and subsequently at 5 yearly intervals, to evaluate the efficiency and effectiveness of measures being taken to achieve water quality outcomes.
- V. Where this monitoring and review demonstrates that the water quality targets are likely or unlikely to be met prior to the specified dates, this information shall inform future plan changes for the OTOP zone to adjust the percentage reductions beyond Baseline GMP Loss Rates required to achieve the water quality targets.
- VI. The OTOP sub-region plan change directs that land use consents to farm are granted with durations not exceeding 10 years and only adopt one percentage reduction step beyond GMP. This would enable the renewal of farming land use consents to be

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relative to the plan review cycle and ensure any future percentage reduction steps are relative to the future state.

**5.4.4 Recommendations: Non-Statutory**

Regional and district councils adopt and implement the Action Plan developed by the Waitarakao/Washdyke Taskforce, which includes the following:

- a. Development of sustainable drain management extension;
- b. Industrial and agricultural GMP extension;
- c. Biodiversity enhancement actions;
- d. Recreational access improvements, including cycle/walkway;
- e. Investigate feasibility of constructed wetlands.

Table 21: Water Quality Target for Groundwater and Surface Water Nitrates in the Levels Plain Hotspot Area

Groundwater Province	Current state average (2012-2017) (mg/L)	Target - Annual average nitrate nitrogen (mg/L)	To be achieved at or before	Total percentage reduction required to achieve water quality target
Levels Plain	6.3	5.65	2030	10%
Surface waters	Current state average total nitrogen (2017-2018) (mg/L)	Target – Annual median (mg/L)	To be achieved at or before	Total percentage reduction required to achieve water quality target
Ring Drain	10.5	6.9	2040	34%
Seadown Drain	7.2		2030	4%

Table 22: Water Quality Target for Nitrates in Washdyke / Waitarakao Lagoon

Waitarakao/Washdyke Lagoon	Current state average total nitrogen (2017-2018) (mg/L)	Target - Annual average total nitrogen (mg/L)	To be achieved at or before	Magnitude of reduction required to achieve water quality target
Waitarakao/Washdyke Lagoon at mid beach	6.7	0.75	2050	Approximately 9-fold



### Water Quantity

There are several urban waterways<sup>61</sup> in the Timaru FMU with small amounts of abstraction occurring. These waterways are considered inappropriate for abstraction due to their naturally low flow and variable nature.

The Seadown Drain is located in the Timaru FMU. The Seadown Drain was originally built to drain the Levels Plain area to provide for agriculture. While Seadown Drain is a modified waterbody, it has become important as both a source of water and as habitat for biodiversity. To enhance mahinga kai, enable fish passage, maintain ecosystem health and meet water quality limits the following recommendations aim to improve the freshwater quality of the Seadown Drain and therefore its input into the Waitarakao Washdyke lagoon.

There are a number of consents with minimum flows tied to Seadown Drain, which were granted in 2008 in consultation with Fish and Game. A presentation given to the Zone Committee and requested the minimum flow be replaced with a water level trigger. As Seadown Drain has a very low gradient and has issues with macrophyte growth, water level does not show a consistent relationship with flow. In summer months, when macrophyte growth is high, velocity in Seadown Drain is very low and water level is high. During these times using a water level trigger rather than a measured minimum flow can result in abstraction occurring when flow is very low. As Seadown Drain contributes an important part of the freshwater input to Waitarakao/Washdyke Lagoon, increasing abstraction at times of low flow poses a risk to Lagoon health.

#### 5.4.5 Recommendations: Water Quantity

- I. Urban Waterways
  - a. Allocation limits are set for all urban waterways in the Timaru FMU, that render these surface water bodies fully allocated.
  - b. Further allocation from these urban waterways is prohibited.
- II. Seadown Drain
  - a. An allocation limit is established for Seadown Drain that renders it fully allocated.
  - b. Further allocation from Seadown Drain is prohibited.
  - c. Regional council continue with current minimum flow regime unless investigations into water quantity indicate a different regime is more appropriate for protecting the values of Waitarakao/Washdyke Lagoon.

### Otipua/Saltwater Creek

The Otipua/Saltwater Creek catchment is mostly agricultural and developed land, and includes the Otipua Wetland. Due to the degraded nature of the catchment the area no longer provides for mahinga kai values, but does have amenity values for many local residents, particularly those using the walkways and cycle tracks and the water surface itself. Amenity values are affected by sluggish flows, low water levels and the presence of sediment in the waterway.

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<sup>61</sup> The following streams are classified as Hill-fed urban in the Timaru FMU: Saltwater Creek, North Branch Otipua Creek, unnamed creek locally called Ashbury Stream, Te Aitarakihi Creek.

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A Saltwater Creek Working Party was formed to investigate the water quality and quantity issues in the catchment and the following recommendations were received and are supported by the Committee:

**5.4.6 Recommendations: Non Statutory**

- I. Local authorities investigate establishment of a River Rating District for the Otipua/Saltwater Creek catchment.
- II. Regional and district council support the establishment of an Otipua/Saltwater Creek Catchment Group.
- III. Regional and district council investigate stream health and flow rates to provide baseline data to inform future decision-making.
- IV. Regional council support Timaru Rowing Club to investigate cost and benefit of silt excavation from lower reaches.
- V. Regional council conduct a feasibility study and costing of weir modification to increase water level and improve fish passage.
- VI. Regional council monitor water level below weir for comparison with above-weir data.
- VII. Regional council investigate catchment inflows and abstractions.
- VIII. Regional council assess coastal erosion processes to inform decision-making.

**Te Aitarakihi Creek**

Te Aitarakihi Creek was traditionally of importance for mahinga kai but has become degraded over recent years. Its lower reach and mouth are within an area used for recreation by fishers, walkers and cyclists crossing the path of the coastal track. Improvements to water quality and quantity in this area would improve cultural and recreational opportunities.

**5.4.7 Recommendations: Water Quantity and Quality**

- I. Regional council and industry investigate opportunities to protect and enhance cultural, amenity and biodiversity values.

**5.5 Pareora Freshwater Management Unit**

***The recommendations for the Pareora Freshwater Management Unit are in addition to those that apply across the OTOP zone.***

The Pareora FMU is the southern-most in the OTOP zone, and the community have been engaged in recent years addressing issues of flow and allocation. Water quality is generally in good condition, and the implementation of Farm Environment Plans and Good Management Practice on farm are expected to achieve the water quality outcomes recommended in this addendum.

An Environmental Flow and Allocation Regime for the Pareora FMU became operative in July 2012 in the form of the Pareora Catchment Environmental Flow and Water Allocation Regional Plan. All water permits in the Pareora FMU have been reviewed so that abstractions of surface

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water and stream depleting groundwater align with the regime in this plan. The Zone Committee recognise that there have been no significant changes in values since the previous flow review, and that the benefit of the current flow and allocation regime is yet to be observed. Therefore, the Committee have recommended no substantive changes to the regime with the exception that a regime be developed for the remaining surface water bodies in the Pareora FMU.

When the regime for the Pareora River and its tributaries was developed, it was acknowledged that the shift to the full ecological flow preference (660 L/s) would have a significant impact on reliability of supply for existing abstractors. The minimum flow for the Pareora River was instead set at 400 L/s, an increase of 100 L/s from the previous minimum flow restriction. The Committee acknowledge the increase in minimum flow and maintains its position that the cultural flow preference is the long-term aspiration for minimum flows in the zone. In the Pareora River, the cultural flow preference aligns with the ecological flow preference of 660 L/s.

**5.5.1 Recommendations: Environmental Flow Regime and Allocation Regime**

- I. The environmental flow and allocation regime for the Pareora Catchment specified in the Pareora Catchment Environmental Flow and Water Allocation Regional Plan, is retained subject to the following additions:
  - a. Environmental flow and allocation regimes are established for Pig Hunting Creek, Lyalldale Creek, and Springbrook Creek.

**PUBLIC EXCLUDED**

**11 EXCLUSION OF THE PUBLIC REPORT**

**RESOLUTION TO EXCLUDE THE PUBLIC**

**RECOMMENDATION**

That the public be excluded from the following parts of the proceedings of this meeting.

The general subject matter of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under section 48 of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under section 48 for the passing of this resolution
<b>11.1 - Public Excluded Minutes of the Environmental Services and Finance Committee Meeting held on 6 November 2018</b>	s6(a) - the making available of the information would be likely to prejudice the maintenance of the law, including the prevention, investigation, and detection of offences, and the right to a fair trial	s48(1)(a)(i) - the public conduct of the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason for withholding would exist under section 6 or section 7
<b>11.2 - Alpine Energy Shareholders Report - December 2018</b>	s7(2)(b)(ii) - the withholding of the information is necessary to protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information  s7(2)(h) - the withholding of the information is necessary to enable Council to carry out, without prejudice or disadvantage, commercial activities	s48(1)(a)(i) - the public conduct of the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason for withholding would exist under section 6 or section 7

**12 RE-ADMITTANCE OF THE PUBLIC REPORT**

**MEETING CLOSURE**