

# Waimakariri Land and Water Solutions Programme

Targeted Engagement with Consent holders

19 April 2018

**Ashley River/Rakahuri**

**Mō tātou, ā, mō kā uri ā muri ake nei**

**For us and our children after us**

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# Workshop Agenda

- Introduction
- Ashley River allocation options
- Group discussion
- Groundwater allocation options
- Group discussion
- Managing nitrate risk
- Group discussion



# Workshop purpose

- Ashley River flow regime in LWRP and what it means for you
- Your feedback on **options** Zone Committee considering for:
  - Addressing over allocation of the A Block
  - Ashley River Allocation limits (B and C Blocks)
  - Capping groundwater allocation limits
  - Managing to nitrate limits

To better support stream ecology, the cultural health and other uses of rivers and streams and the estuary

# Zone Committee's solutions include....

## 1. Practical Actions



**Actions** on the ground by landowners, industry, community and ECAN etc.

## 2. Water Quality & Quantity Limits, policies and rules



**Plan Change** to Section 8  
*Land and Water Regional Plan*





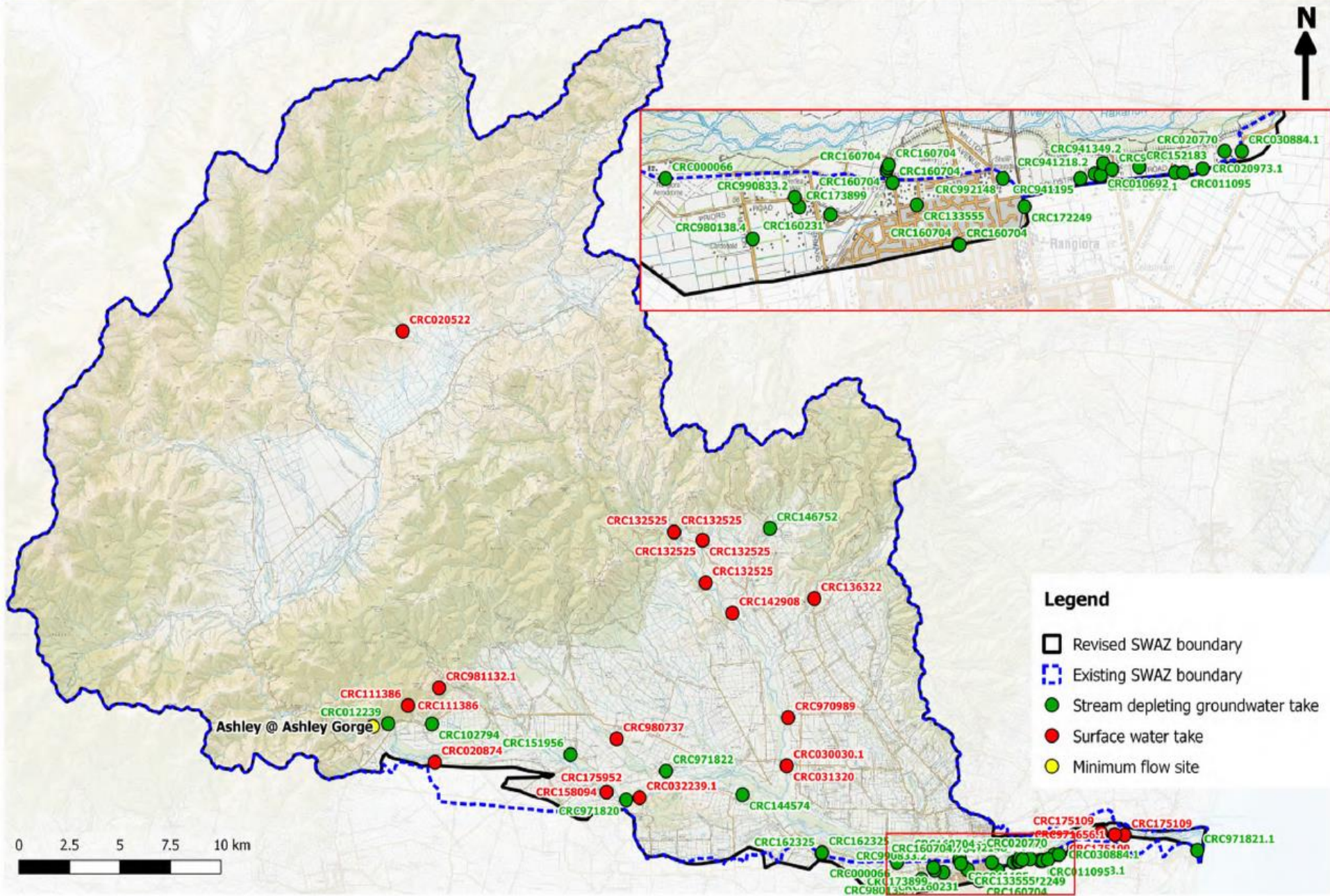
# Big issues for the Ashley River

- Declining flows and extended drying reaches
- Nutrient enrichment of Estuary
- Toxic algal growth at swimming sites
- Nuisance algal growth throughout river
- Loss of braided character (loss nesting bird and river margin habitat)
- Loss of cultural values





## Ashley River Surface Water Allocation Zone



# What consents need a minimum flow restriction?

- Surface water takes
- Shallow groundwater takes connected to stream or river classed as having a:
  - **Direct** stream depletion effect
  - **High** stream depletion effect greater than 5 L/s

# Ashley River flow regime (LWRP)

River or Stream	Minimum flow L/s	Allocation limit L/s	Current allocation L/s
Ashley River (A Block)	2500 Jan-Jul 4000 Aug-Nov 3000 Dec	700	<b>1082</b>
Ashley River (B Block)	3200 Jan-Jul 4700 Aug-Nov 3700 Dec	500	<b>139</b>
Ashley River (C Block)	6000	3000	<b>293</b>

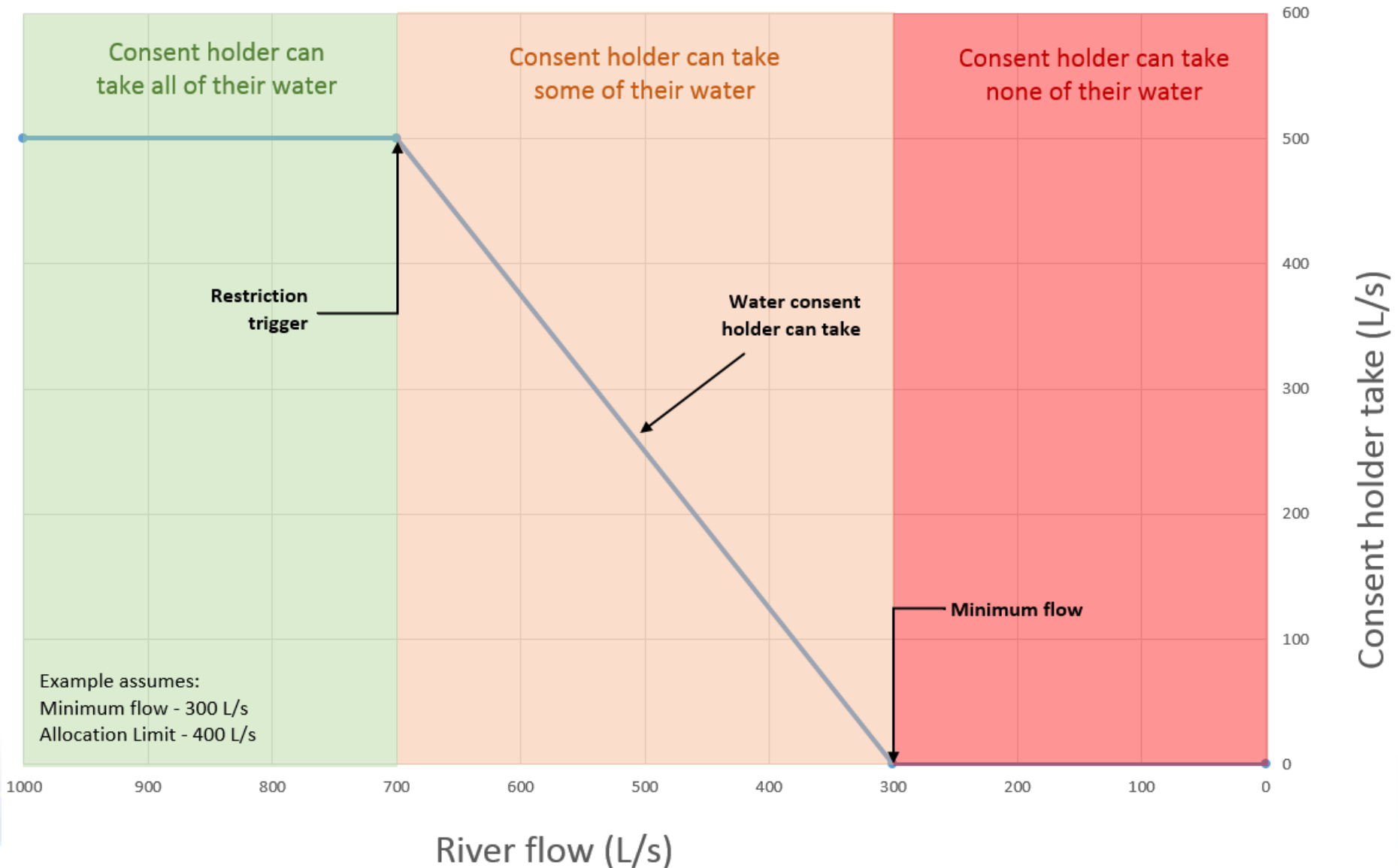
Plus partial restrictions on pro-rata basis to maintain min flows (Policy 8.4.1)

The amount of water allocated within an allocation limit is the sum of:

- (a) the maximum rate of abstraction of each surface water take and
- (b) the stream depletion effect of each groundwater take calculated in accordance with Schedule 9



# Partial restrictions



# What does the LWRP mean for you?

- New takes from the Ashley “A” allocation block prohibited
- Water currently available in “B” and “C” allocation blocks
- Existing users can apply for replacement consents (must be at least 3 months before expiry)
- Your consent would include LWRP compliant conditions including:
  - Annual volume based on efficient water use
  - Minimum flow if a surface water take or stream depleting groundwater take
  - Pro-rata partial restrictions
  - Up to 10% reduction in previous rate of take and/or volume if over-allocated

# ZC options for your feedback

River or Stream	Min flow options	Allocation limit options
Ashley River A permits	1. LWRP – <b>no change</b> 2500/4000/3000 L/s	1. LWRP – <b>no change</b> (700 L/s) but phase out over-allocation of 382 L/s
Ashley River B permits	1. LWRP – <b>no change</b> 3200/4700/3700 L/s	1. Cap at current allocation – 139 L/s 2. Cap current allocation + ring-fence an allocation for cultural purposes
Ashley River C permits	1. LWRP – <b>no change</b> 6000 L/s	1. Cap at current allocation – 293 L/s 2. Cap current allocation + ring-fence an allocation for cultural purposes

# Some tools for addressing out over-allocation of the Ashley “A” block

- Switch to deep groundwater
- Reducing allocation e.g. % haircut for everyone
- Prohibiting or restricting water transfers
- Voluntary surrender of water permits
- Not re-allocating lapsed or expired consents
- Allocate water based on actual water use data
- Allocate water based on modelled efficient water use
- More accurate stream depletion assessment model
- Water User Groups (sharing water when takes restricted)
- Offset mitigations in short term (e.g. riparian plantings)

Could apply some of above when apply to renew consents OR  
earlier by consent review



# Pros and cons of B and C allocation options

Block	Options	Pros	Cons
B Permits	Cap at current Allocation – 139 L/s	<ul style="list-style-type: none"> <li>Under-allocated compared to LWRP limit by 361 L/s</li> <li>Protects flushing flows</li> <li>Manage nitrate risks that might be increased by new water abstraction</li> </ul>	<ul style="list-style-type: none"> <li>Economic impact by constraining land-use change options</li> </ul>
	Cap at current allocation (139 L/s) plus ring-fence some or all of the available B block water as a cultural allocation $\leq 500$ L/s	<ul style="list-style-type: none"> <li>Supports cultural aspirations</li> <li>Doesn't exceed current plan limits</li> </ul>	<ul style="list-style-type: none"> <li>Economic impact by constraining land-use change options</li> <li>Further information is needed regarding the amount sought for cultural allocation and purpose for which it may be used</li> </ul>
C permits	Cap at current allocation - 293 L/s	<ul style="list-style-type: none"> <li>Protects freshes and flood flows that are important for water quality and the health of the estuary</li> <li>Preserves current (albeit poor) reliability for existing consent holders</li> </ul>	<ul style="list-style-type: none"> <li>May negatively impact on ability to take water to storage</li> </ul>
	Cap at current allocation (293 L/s) plus ring-fence some or all of the available C block water as a cultural allocation $\leq 3000$ L/s	<ul style="list-style-type: none"> <li>Supports cultural aspirations</li> <li>Doesn't exceed current plan limits</li> </ul>	<ul style="list-style-type: none"> <li>Economic impact by constraining land-use change options</li> <li>Further information is needed regarding the amount sought for cultural allocation and purpose for which it may be used</li> </ul>

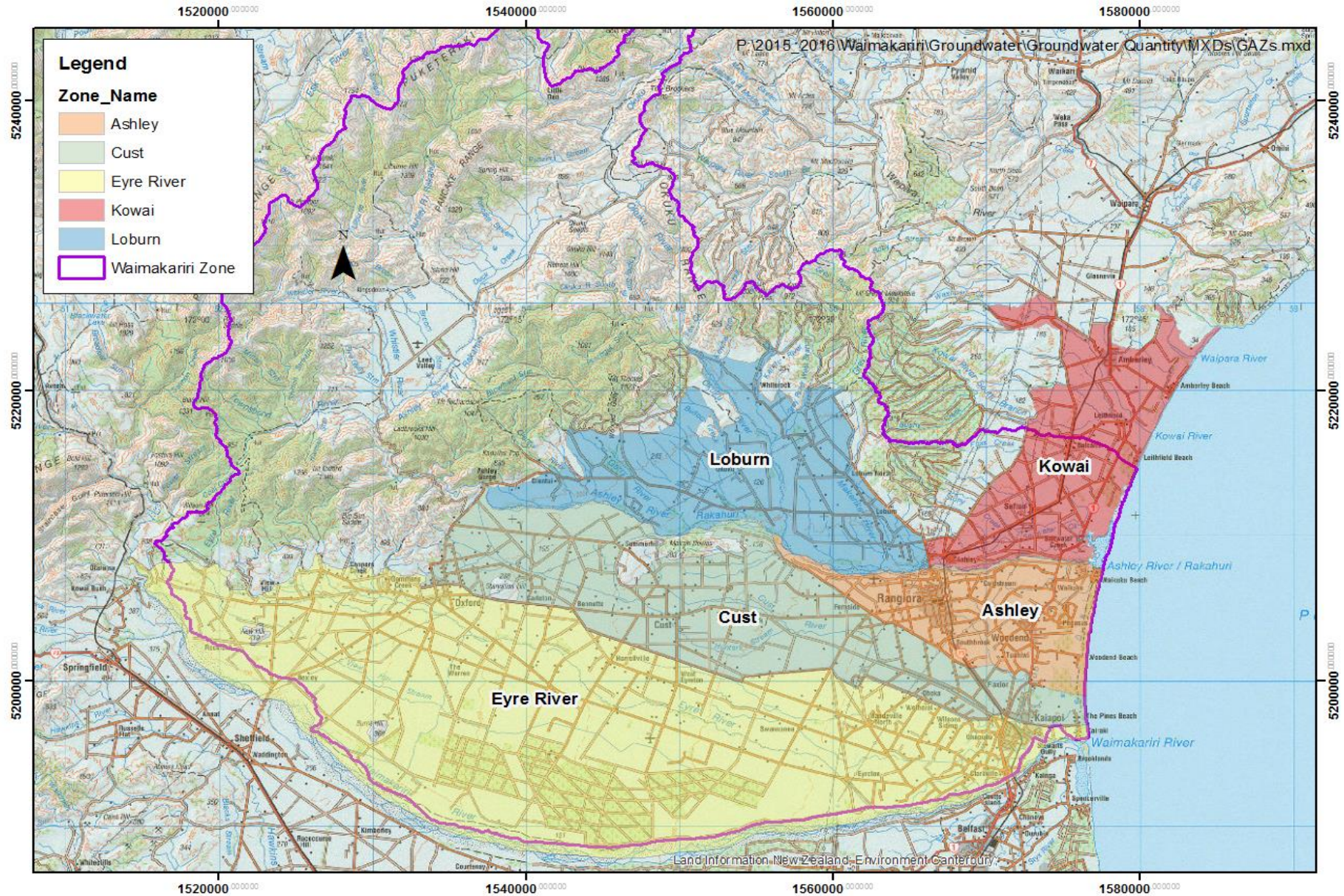
# Questions

1. How should over-allocation of Ashley “A” allocation block be phased out?
2. Do you have any concerns about capping the Ashley “B” and “C” blocks?
3. Do you have any concerns with providing a “cultural allocation” from the “B” and “C” blocks?

# Groundwater quantity



# Groundwater zones





# Options for Groundwater allocation

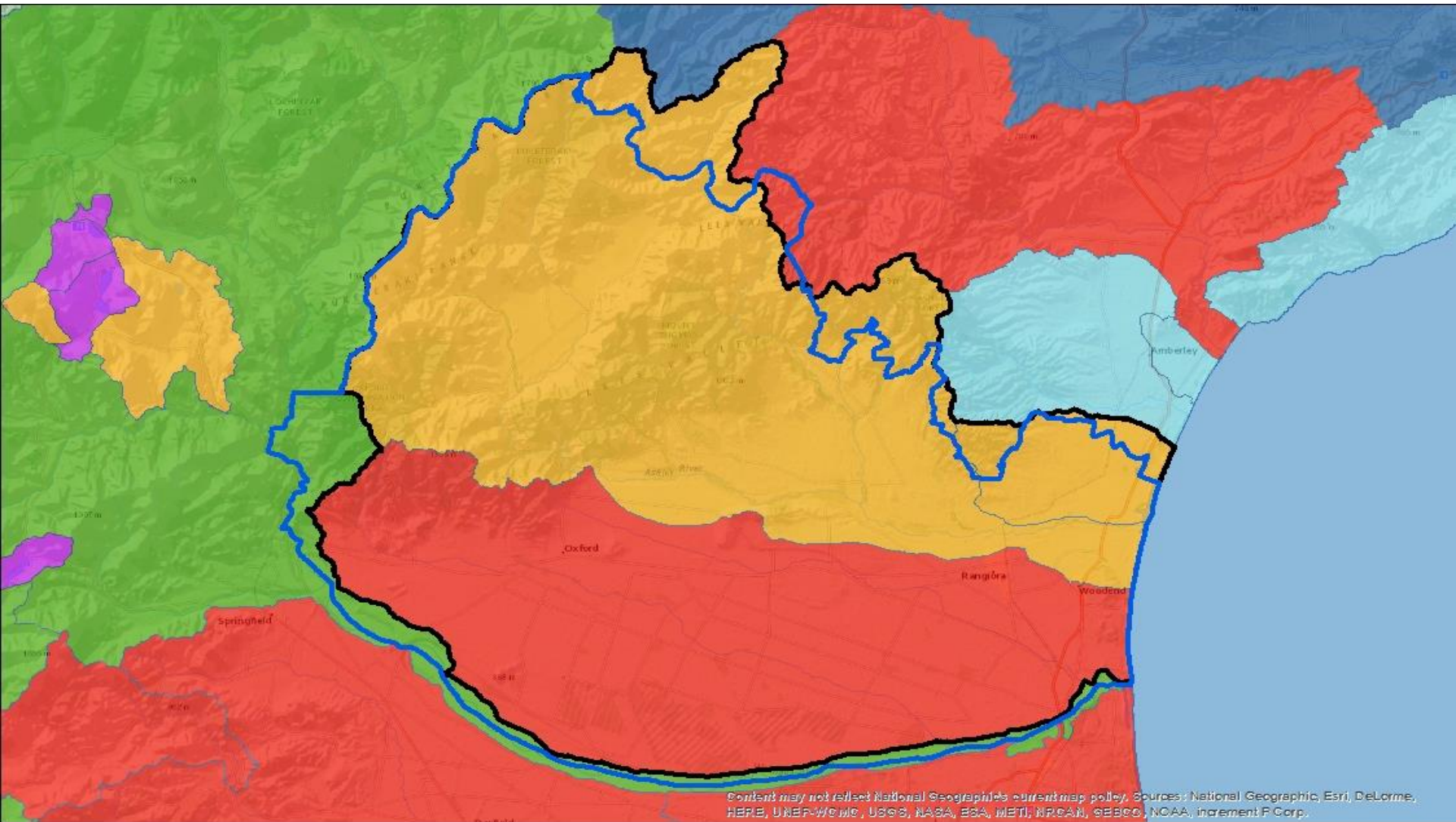
Groundwater Zone	Allocation limit million m <sup>3</sup> /year	Est. Allocation (% allocated)	Options	Comment
Ashley	29.4	(54%)	<ol style="list-style-type: none"> <li>1. Cap at current allocated volume; and/or</li> <li>2. Headroom % for new takes (e.g. 10%); and/or</li> <li>3. enable switches from Surface water</li> </ol>	<ol style="list-style-type: none"> <li>1. Declining groundwater levels</li> <li>2. Declining river flows</li> <li>3. Generally low well yields in the Loburn GAZ</li> </ol>
Loburn Fan	40.8	(0.5%)		
Lees Valley (Proposed new zone)	To be determined	To be determined	<ol style="list-style-type: none"> <li>1. Cap at current allocated volume; and/or</li> <li>2. given % for new takes (e.g. 10%)</li> </ol>	<ol style="list-style-type: none"> <li>1. No current allocation limit</li> <li>2. Increase abstraction could contribute to declining flows</li> </ol>

# Question

1. Do you have any concerns about the options for capping groundwater allocation?
2. Any ideas for how we can address those concerns?

# Nitrates

# Nutrient zones



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Lake Zone

Unclassified

Refer to Hurunui Waiau River Regional Plan

Water Quality Outcomes Not Met

At Risk

Meets Water Quality Outcomes

Waimakariri CWMS zone boundary

Waimakariri sub regional chapter boundary

0 5 10 20 Kilometers

N



# Proposed river nitrate limits

Stream or River	Current measured mg/L nitrate-N	ZC preferred options mg/L nitrate-N
Ashley Gorge	0.2	0.2*
Ashley SH1	0.3	0.3*

\*Zone committee had considered a limit of 0.1 mg/L at Ashley Gorge and SH1 but this requires a 48% and 67% reduction in N load respectively so was considered unrealistic given the relatively low intensity farming in the catchment

# Proposed groundwater nitrate limit

Option	Summary
Current measured concentrations	1.1 mg/L nitrate-N as an annual average

**Note:** the LWRP region wide limits for groundwater nitrate-N are an annual average concentration of <5.65 mg/L and maximum concentration of <11.3 mg/L.

# Options for managing to nitrate limits

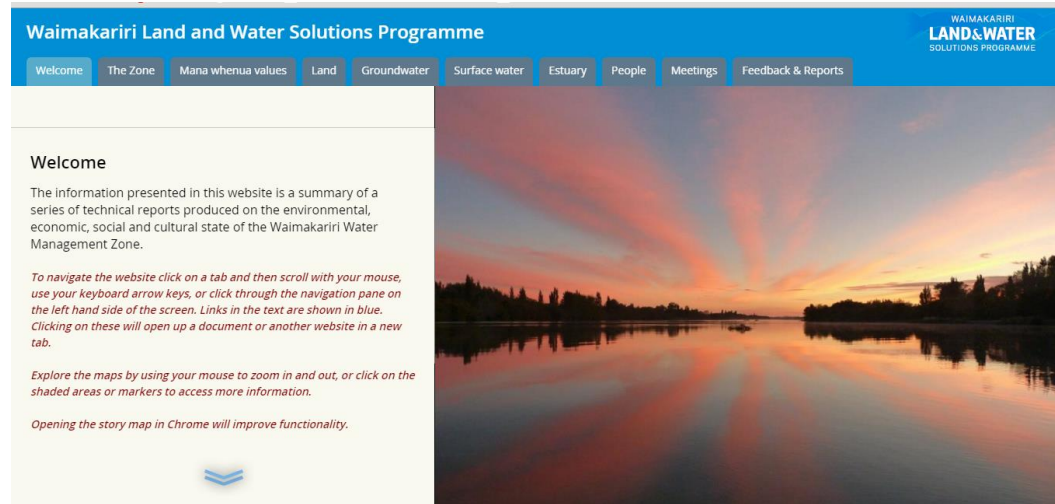
Option	Summary
LWRP <b>orange</b> zone nutrient rules  (water quality outcomes at risk)	<ul style="list-style-type: none"><li>• <b>Farming permitted</b> if:<ul style="list-style-type: none"><li>• Less than 50 ha irrigation or</li><li>• Area used for winter grazing of cattle &lt; 10 ha for properties less than 100 ha; 10% of area of properties between 100 ha and 1000 ha; or 100 ha for properties larger than 1000 ha</li></ul></li><li>• <b>Consent required</b> above thresholds and to comply with “Baseline loss rate” and from 2020 “Baseline GMP loss rate”</li><li>• <b>Can</b> apply for consent to increase nitrogen losses above N Baseline but generally inappropriate (non-complying)</li></ul>
LWRP <b>red</b> zone nutrient rules  (water quality outcomes not met)	<ul style="list-style-type: none"><li>• <b>Permitted activities</b> not allowed to increase irrigated area by more than 10 ha above area irrigated at Feb 2016</li><li>• <b>Cannot</b> apply for consent increase nitrogen losses above Baseline (prohibited)</li></ul>

# Questions

1. Do any concerns about any of the nitrate limit options for rivers and groundwater?
2. Do you have any concerns with the Ashley catchment being subject to red zone nutrient rules?



# Thank you for your time!



Go to **waimakariri-water.nz** for more information  
or provide feedback.