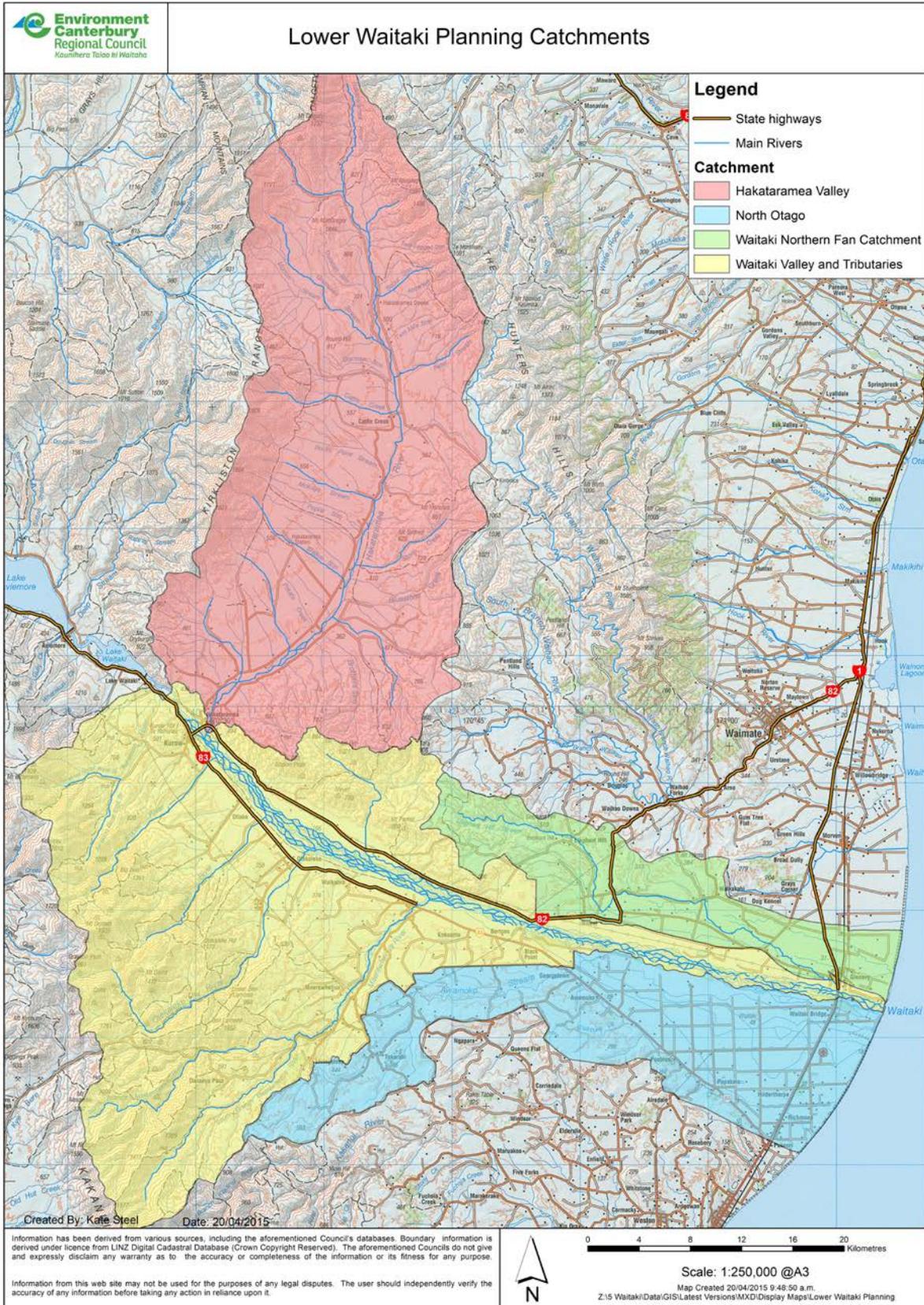


Lower Waitaki ZIP Addendum

July 2015



ZIP Addendum: Lower Waitaki



Introduction

This addendum covers both water quality limits and non-statutory actions to implement the Canterbury Water Management Strategy (CWMS) in the Zone. A major vehicle for implementing the recommendations will be the Waitaki Sub Regional section of the Land and Water Regional Plan (LWRP).

The major influence on water quality delivered to the Waitaki River is the nutrient state of Lake Benmore. Catchment load limits are also proposed for Lake Benmore through the Upper Waitaki Zone Committee.

The Zone is considered in 3 management units:

1. The **Hakataramea Valley**
2. The **Waitaki Valley and tributaries**
3. The **Northern Fan** of the Waitaki River, which includes Whitneys Creek, and Waikākahi, Elephant Hill, and Waihuna.¹

The package aims to protect the high water quality in the Waitaki River, enhance biodiversity across the valley, and provide for opportunities for new and existing business; maintain low nitrate concentrations in Whitneys Creek and reduce *E.coli* and sediment in the creek; gradually improve the Waikākahi Stream, and maintain water quality and community values in the Hakataramea catchment.

¹ The Southern Fan of the Waitaki River is in the Otago region.

Outcomes

The Zone Committee and community have developed the following **outcomes** under the CWMS for the area:

Waitaki valley and tributaries

- *Maintain high water quality in the Waitaki River*
- *Protection of mauri (life-force)*
- *Reliable supply of water for irrigation²*
- *Flows at the river mouth protect ecosystem health³*
- *Enhance wetlands in the Waitaki Valley*
- *Improving opportunities for Mahinga Kai across the catchments*
- *Safe and secure drinking water is available across the catchments*
- *Maintenance of existing electricity contribution*
- *Enhancing recreational and amenity opportunities*
- *Enabling opportunities for new and existing businesses and community services*

Hakataramea River

- *Maintain water quality and recreational swimming opportunities*
- *Maintain the significant recreational fishery*
- *Improve opportunities for mahinga kai across the catchment*
- *Native fish habitat is protected in the headwaters of the Hakataramea*
- *Enhanced wetlands and trees and protected native vegetation*
- *Safe and secure drinking water is available*
- *There are viable and diverse farming opportunities*
- *Sustain farms for future generations; family ownership*
- *Opportunities for further development are available to all farms*
- *Vibrant and stable community*

Northern Fan Catchments

- *Safe drinking water*
- *Inclusive, multicultural and safe community*
- *Strong local economy and growing community, able to retain health and education services*
- *Local history and culture valued and remembered*
- *Water quality maintained and improved*
- *Waterways suitable for range of recreational uses*
- *Successful and sustainable farming on irrigated areas, with diversity of farming systems*
- *Wetlands and springs protected*

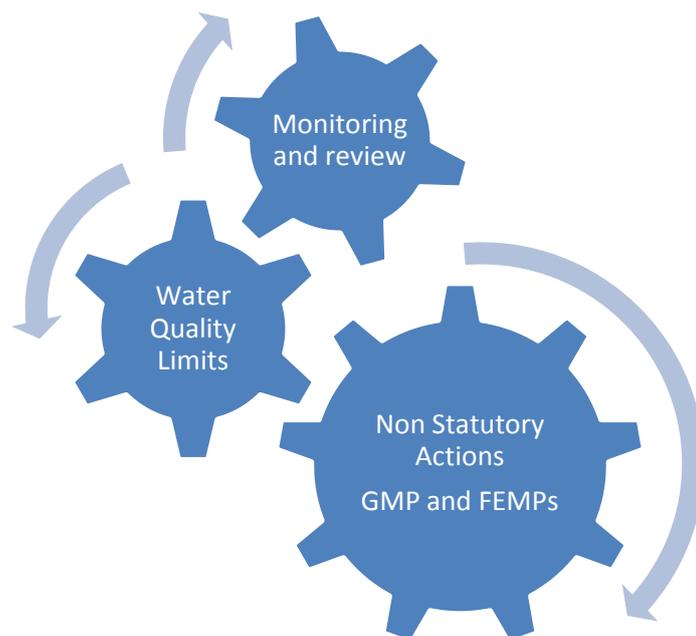
² Water quantity is fixed by the WCWARP

³ Water quantity is fixed by the WCWARP

Major Pathways

The major pathways to achieve the outcomes are listed below and form the basis of the recommendations. They are designed as an integrated package and include:

- Support for **Catchment Groups**: for collective action and support for practices to reduce losses of sediment, phosphorus and nitrogen
- **Direct Actions** to address specific issues in specific catchments
- Use of **Farm Environment Plans** using available templates: to facilitate and demonstrate Good Management Practices and actions
- **Good Management Practice (GMP)** requirements for agricultural, and for urban and industrial discharges
- A **Simple Framework** to support limits implementation
- A **Monitoring System** that provides feedback on progress to outcomes and the effectiveness of plan



1. Across management areas

Recommendations: Enabling Biodiversity Enhancements

1. *The Sub regional section is enabling of actions in the Immediate Steps Biodiversity Programme, including the construction/removal of fish barriers as appropriate*
2. *Environment Canterbury and catchment groups identify and implement opportunities to develop native fish reserves across the catchments where appropriate*
3. *Environment Canterbury and catchment groups identify and protect spring heads across the catchments, in particular in the Waikakahi and Whitneys catchments*
4. *The LWZC host a stakeholder biodiversity workshop in the Waitaki to identify opportunities for coordinated and aligned actions to deliver on biodiversity outcomes in the Valley.*

Recommendations: Good Management Practice

5. *The Sub regional section requires Good Management Practice (GMP) for all industries, based on the Matrix of Good Management Project (for agriculture)*
6. *The Sub regional section requires Farm Environment Plans that are audited as part of a consenting regime and investigates whether FEPs can be required as part of a permitted activity*
7. *Environment Canterbury support catchment groups where these are working on local land and water actions that aligns with the CWMS and deliver on ZC outcomes*
8. *Environment Canterbury prioritizes work around stock exclusion, including improved compliance and enforcement of rules*

Recommendations: Alignment with the National Policy Statement on Freshwater Management (NPS)

9. *The Zone Committee supports the setting of three Fresh Water Management Units for the Lower Waitaki: Hakataramea, Valley and Tributaries, and Northern Fan; providing this allows for differential sub-catchment management within the Zone*
10. *The Zone Committee considers all the national values identified in the NPS as appropriate for the Valley and tributaries area*

Freshwater management units are the spatial scale for setting limits. In the Lower Waitaki there are three distinct hydrological catchments: the Hakataramea Valley, the Main stem of the Waitaki and the tributaries which flow directly to it, and the Northern Fan of the Waitaki River and the waterbodies within this. The national values in the NPS align with the community outcomes that the committee has identified for the Lower Waitaki under the CWMS. All of these national values are appropriate for the Valley and Tributaries section: ecosystem health, human health for recreation, natural form and character, mahinga kai, fishing, irrigation and food production, animal drinking water, wai tapu (the places where ceremonies can be performed), water supply for drinking,

hydroelectric power generation, and transport. The Northern Fan and Hakataramea catchments do not have the values of hydroelectric power generation, and transport.

2. Waitaki Valley and Tributaries

Waitaki Valley and Tributaries includes the main stem of the Waitaki River, the tributaries on the southern side, the 'mid reach north side' that is directly connected to the river, and the Waitaki River-side section of the Northern Fan of the river.

The package aims to protect the high water quality in the Waitaki River and enhance biodiversity across the valley, while providing for opportunities for new and existing business.

Water Quality delivery from Upper Waitaki

Water Quality limits are being set concurrently for the Upper Waitaki. The key node of interaction between Upper Waitaki (the lakes) and Lower Waitaki (the river), is the water quality delivered to the Waitaki River at Kurow. The major influence on water quality delivered to the Waitaki River is the nutrient state of Lake Benmore. Lakes Aviemore and Waitaki have very short 'residence times', 14 days and 1.1 days respectively. Current concentrations of nutrients are very low in the river at Kurow. The Upper Waitaki Zone Committee proposes to set limits which would maintain the oligotrophic state of Lake Benmore.

Recommendations: Water Quality Limits

1. *The Sub regional section requires Good Management practice for all resource use*
2. *The Sub-regional section requires resource consent for activities that change to a higher intensity threshold (e.g. equivalent to 20kgs/ha/yr of N loss under Overseer version 6.1)*

The Valley and Tributaries area is currently meeting water quality outcomes and is highly developed. The regime aims to protect the high water quality in the Waitaki River and tributaries, by: requiring Good Management Practice for resource use, requiring consent for change above an intensity threshold, through an in-stream monitoring network and by relying on natural development constraints e.g. access to water, slope, elevation, and temperature. A simple regime is proposed which builds on the regional 'green-zone' rules by requiring GMP and providing a simple structure for managing to limits.

3. *The Sub regional section contains a regime based on the above recommendations*
4. *The Sub regional section does not use a catchment load for consent by consent decision making, but uses for example in-stream concentrations, and the plan contains the formula for calculating the catchment load*

The Zone Committee have discussed nervousness around the use of catchment loads at this node, where water quality has external inputs (i.e. the Otago region and the Upper Waitaki Zone). In all catchments, catchment load limits will need to be 'Overseer update proofed'.

Recommendations: Other Actions

5. *The LWZC host a stakeholder biodiversity workshop in the Waitaki to identify opportunities for coordinated and aligned actions to deliver on biodiversity outcomes in the Valley*
6. *Environment Canterbury implement a robust monitoring programme, including in-stream concentrations, that is able to inform Plan effectiveness and review*

There is the opportunity to better coordinate biodiversity actions in the Waitaki Valley, using the cross-cutting role of the Zone Committee, the Immediate Steps biodiversity programme, and the work, funding, and ideas of other agencies working in the Waitaki.

3. Hakataramea River

The Hakataramea catchment is a very large catchment, with low rainfall, highly valued recreational and native fisheries, a tight community, and a natural conditions that favour algal growth.

The package aims to maintain water quality and recreational opportunities in the valley, while providing for viable and diverse rural economy, protection of native species habitat, and providing a pathway to address community concerns with the management of water quantity in the catchment.

The Zone Committee with staff support have worked with the Hakataramea community over the last seven months to develop the preferred regime for managing the catchment.

Recommendations: Water Quality Limits

1. *The Sub regional section sets a catchment load limit based on the current consented load plus an additional 4%, see Appendix One*
2. *The Sub regional section requires Good Management Practice for current land-use and:*
 - a. *Consent for land-use change above a certain threshold e.g. winter fodder grazing, irrigation*
 - b. *Consent for up to 15kgs/N/ha/yr with a maximum amount to be applied for, based for example on a percentage of the headroom or a land area of 100ha*
 - c. *Consent is only granted up until the catchment load limit is reached*
 - d. *The consented headroom is only available in the flat/rolling band*
3. *The Sub regional section sets three bands for the valley: near river, flat/rolling, steep/undeveloped*
4. *The Sub regional section requires maximum caps in the near river band, to manage the risks of intensive landuse affecting localized water quality:*
 - a. *expressed as either a percentage better than GMP, or as a number*
 - b. *to be achieved by consent expiry*
 - c. *that balances gain (reduced risk) with pain (economic implications for individuals)*

The 4% catchment load increase, beyond what is currently consented, is designed to give some future flexibility to landmanagers; while the non-statutory actions, maximum caps, and limits, protect water quality. The bands represent: the gravelly light soils adjacent to the river, the main body of the agricultural land between the near river and steep, and the steep high country and undeveloped hills that are extensively grazed. Maximum caps are desired to manage the risks of intensive land-use adjacent to the river. The allocation method provides for landmanagers to change land-use and intensify, up to 15kgs/ha/yr – by requiring consent for land-use change up to the point where the catchment load limit is reached. A maximum percentage of load, or maximum hectares applied for, is necessary to stop the catchment headroom being captured by a few and enable a fairer system of distribution.

Recommendations: Other actions

5. *Compulsory on farm practices:*
 - a. *Exclude all deer, cattle and intensively grazed stock from the Hakataramea River mainstem as per the pLWRP rules. The community recommends that the Regional Council work with relevant parties to determine if the current significant salmon spawning site boundaries are correct.*
 - b. *Exclude intensively grazed stock from all waterways including ephemeral streams. Exclusion can be achieved by either temporary or permanent fencing.*
 - c. *Setbacks between waterways and intensively grazed stock must be at least 12m from the Hakataramea main stem and 5m from the tributaries.*
6. *Good Management Practice to be adopted by all land managers*
7. *Farm Environment Plans are encouraged*
8. *Education, field days, and facilitation be provided by the Regional Council, industry groups and other stakeholders in a co-operative way to support the catchment group in understanding and integrating best practice management on their farms*
9. *A waterway health monitoring regime that is targeted and well-coordinated involving farmers, consent holders and Regional Council be developed and implemented*
10. *A holistic river management programme is to be developed and implemented by catchment members (farmers, DOC, Iwi, Fish and Game), ECan river engineers and biodiversity staff. This programme is to include river channel maintenance, riparian management and weed control.*
11. *Indigenous fish species and their habitat be protected including galaxias, long fin eels and torrent fish through co-operation between land managers and Department of Conservation*

There is a need to check the significant salmon spawning boundaries to ensure these are correct and give certainty to all parties. Water quality sampling demonstrates that phosphorous, E.coli and sediment runs off to waterways during rain events, by excluding intensively grazed animals this will reduce direct deposition and a compulsory set back will assist in mitigating the contaminant movement via run-off. Farm plans are recognised as a useful planning and monitoring tool however members of Hakataramea community are adamant that they do not want a statutory mechanism that requires all farms to get consent for the purpose of obtaining an auditable farm plan. A holistic river plan, involving all parties, is key to achieving outcomes. If willow removal, channel modification and riparian management are carried out in isolation of each other there is a significant risk of losing instream values. Land managers and DOC have agreed to work together to protect native fish habitat.

Recommendations: Water Quantity

The community has raised concerns around the current water quantity settings in the Hakataramea that include: diversions being counted in the allocation, over-allocation of the A block, time taken for renewal of A block consents, inadequate ECan records of up-to-date allocation, concern about the distance of some A and B block takes from monitoring sites, the provision of adequate flushing flows, provision for flow sharing, provision for water harvest, the place of tributaries in the allocation, and the notification of new consents.

The Waitaki Catchment Water Allocation Regional Plan (WCWARP) is due for 10 year review beginning in 2016.

- 12. Environment Canterbury addresses community concerns with water quantity in the Hakataramea River in the scheduled 10 year review of the Waitaki Catchment Water Allocation Regional Plan*
- 13. Environment Canterbury creates a publicly accessible, regularly updated running total of surface water allocation from the Hakataramea catchment*
- 14. Environment Canterbury provides adequate advice to prospective applicants including about available allocation, and likely flow restrictions to protect existing users' reliability of supply*
- 15. Environment Canterbury creates a hydrological model of the Hakataramea catchment capable of exploring the impacts on reliability of any further takes in the catchment*
- 16. Environment Canterbury undertakes a range of investigations to inform the 10-year review of the WCWARP*
- 17. Environment Canterbury supports a facilitator working with the Hakataramea catchment group*

These actions will assist in making good decisions about the future management of the Hakataramea catchment. It is suggested that the development of a model and scoping of investigations involve the Hakataramea catchment group. A facilitator would help enable the implementation of statutory and non-statutory actions in the valley, and community involvement in the WAP review.

Northern Fan Catchment

The package aims to maintain current nitrate concentrations in Whitneys creek, while improving values impacted by the presence of *E.coli* and sediment in the creek, continuously improve Waikākahi stream and springs, and maintain a strong local economy and community.

The Zone Committee and staff support have worked with the Northern Fan community over the last seven months to develop the preferred regime for managing the catchment. The catchments are shown below and their place in the wider Waitaki on the front of this document. The Waitaki River-side section is considered as part of the Valley and Tributaries section.



Whitneys Creek

Whitneys Creek is a small spring-fed stream in a highly developed catchment that includes a dairy factory. It has relatively low nitrate-N concentrations but persistent *E.coli* and sediment issues. Canterbury mudfish are present in the headwaters.

Recommendations: Whitneys Flow and Allocation

1. *The Sub-regional section sets a flow and allocation regime for Whitneys Creek with the following components:*
 - a. *A minimum flow of 10 l/s measured at the current point of take*
 - b. *A total allocation limit of 35 l/s plus provision for suitable access for stockwater that has a maximum that does not need to be consented*
 - c. *Prevention of relocation of existing consented abstraction upstream of the existing point of take and the re-allocation of the existing consented abstraction if this is relinquished*

There is currently no flow and allocation regime for Whitneys Creek. The above recommendations aim to preserve the important mudfish habitat in the upper reaches while providing for the current abstraction and access to stockwater in the catchment.

Recommendations: Whitneys Water Quality

2. *The Sub regional section sets a catchment load limit to achieve 95% Nitrate-N toxicity protection, provide for existing consented activity, and provide flexibility for the undeveloped land, see Appendix One*
3. *The Sub regional section requires farms receiving 'industrial discharge' to operate within GMP for their land- use*
4. *The Sub regional section requires Good Management Practice for all land use based on the Matrix of Good Management project*
5. *The Sub regional section requires resource consent for land use change over a certain intensity threshold*
6. *All resource-use, uses a Farm Environment Plan or Environmental Management Systems (for industrial activities)*
7. *Landowners work with rūnanga to provide appropriate access to waterbodies*
8. *Landowners work with rūnanga to promote the use of native vegetation in riparian margins where appropriate*
9. *Landmanagers focus land management efforts on a riparian programme to reduce E.coli and sediment impacting the stream*
10. *Environment Canterbury work with relevant parties to investigate current road runoff on Pikes Point Road and SH1*

The non-statutory action is designed to address the persistent issues (*E.coli* and sediment) in the catchment, while the load limit provides species protection and some flexibility for land-use change. Farms that receive dairy factory discharge will need to operate within GMP for their land-use. The Zone Committee intends that a move to GMP will help improve water quality outcomes, not provide for nitrate-nitrogen load to be imported into the catchment as industrial discharge. Focusing land

management riparian efforts into E.coli reductions and using native species will help improve habitat and water quality.

Waikākahi / Elephant Hill / Waihuna

Waikākahi stream is a spring-fed stream in the Northern Fan of the Waitaki, valued as a trout fishery. It has been a dairy best practice catchment and riparian management has stabilized or reduced the sediment and phosphorus in the stream, however nitrates have remained elevated in surface and groundwater, and the springs. The stream has lower nitrate-N concentrations at the bottom of the stream. The Elephant Hill and Waihuna sub-catchments are connected to the Waikākahi via groundwater; however there is uncertainty about this relationship.

Recommendations: Waikākahi Stream / Elephant Hill / Waihuna Water Quality

- 11. The Sub regional section sets a catchment load limit based on the current land use at Good Management Practice, see Appendix One*
- 12. The Sub regional section requires Good Management Practice for all land use based on the Matrix of Good Management project, from 2017*
- 13. The Sub regional section requires a 10% reduction in nitrate-N loss, below GMP for high emitting land uses by 2026*
- 14. The Sub regional section provides permitted flexibility for low intensity land use, equivalent to the 10% gain from 2016, or when the plan is operative*
- 15. All land managers use a Farm Environment Plan to identify and manage risks*
- 16. Land Managers continue the 'Waikākahi riparian project' up the valley floors of tributaries to the stream*
- 17. Land Managers focus land management effort on potential 'hot spots' that may contribute to the Waikākahi Springs*
- 18. Environment Canterbury investigate the link between groundwater and surface water in the catchments, in particular the connections between Elephant Hill/Waihuna and Waikākahi stream*
- 19. Environment Canterbury implement a monitoring programme to inform progress to meeting the catchment outcomes*
- 20. Environment Canterbury check the impact of Glenavy township discharges on local wells*
- 21. If Glenavy township discharges are affecting local wells, then Waimate District Council investigate a scheme of regular cleaning and maintenance of township septic tanks*

The water quality regime is designed to gradually improve the nitrate concentrations in the Waikākahi stream and springs. The requirements for better than GMP losses for high emitting land-uses, provides load gain for low intensity uses and moves load away from the stream area. There is a need to focus on any 'low hanging fruit' with land management efforts immediately, while the movement to GMP and the surface water / ground water investigation occur. At plan review, the effectiveness of the non-statutory and GMP efforts will be assessed against the outcomes, and pending the result of the investigation, refinements made to the framework.

4. Implementation, Monitoring, and Review

A key part of the package is monitoring and review. A Plan review will need to assess the effectiveness of the water quality limits and non-statutory actions in delivering on the water quality outcomes. It is also envisaged that what is considered GMP will be reviewed and updated by the regional council and industry over time.

Recommendations

1. *Environment Canterbury review the Sub Regional section in 2026 and on the basis of review of progress towards achieving environmental outcomes, initiate a plan change to revise any or all of:*
 - i. *GMP numbers (e.g. N in kg/ha/yr),*
 - ii. *the catchment load limits,*
 - iii. *the allocation of the load,*
2. *Environment Canterbury and industry review and update GMP as technology, practice, and cost-effectiveness change over time*
3. *Environment Canterbury carry out technical investigations to support the review in 2026 such as:*
 - i. *An investigation into the groundwater and surface water dynamics and nutrient pathways in the catchment of the upper Waikākahi stream*
4. *Environment Canterbury implement a monitoring programme to inform future plan reviews (including the effectiveness and efficiency of the plan) and progress towards catchment outcomes*

Appendix One:

Table A - Draft N-load limits for farming

Catchment		*Load limit (t/yr)	What does this mean for resource users?	What does this mean for environmental outcomes?
Valley and Tributaries		780**	<ul style="list-style-type: none"> Current operations can continue as long as they are working at GMP Consent is required to move to new activities that cross an intensity threshold. These would also need to be at GMP 	<ul style="list-style-type: none"> Low nitrate concentrations maintained in the tributaries and main stem Across Valley actions to enhance biodiversity
Hakataramea		580	<ul style="list-style-type: none"> Current operations can continue as long as they are working at GMP Consent required for land-use change up to 15kgs/ha/yr and cumulatively up to the load limit High intensity land-use in the near-river band needs to reduce losses to meet the max cap 	<ul style="list-style-type: none"> Small increase in risk of nuisance periphyton growth GMP and river management plan deliver gains for sediment, E.coli, and habitat
Northern Fan	Whitneys Creek	200	<ul style="list-style-type: none"> Current operations can continue as long as they are working at GMP Some land-use change is possible for the small area of undeveloped land 	<ul style="list-style-type: none"> 95% species protection level for nitrate-N is maintained in the stream On the ground actions needed to address <i>E.coli</i>
	Waikākahi / Elephant Hill / Waihuna	240	<ul style="list-style-type: none"> Current operations can continue as long as they are working at GMP High intensity land-uses reduce losses to 10% better than GMP by 2026 Flexibility for low emitting land-uses provided immediately 	<ul style="list-style-type: none"> 95% species protection level for nitrate-N is maintained in the lower reaches of the stream Water quality improves further up the stream due to 'on the ground efforts' and GMP

*NOTE THAT CATCHMENT LOAD LIMIT NUMBERS ARE DRAFT PLACE-HOLDERS & ARE DEPENDENT ON FINAL CATCHMENT MODELLING

** Load limit includes 100t N for Waitaki Riverside, previously considered as part of the Northern Fan area

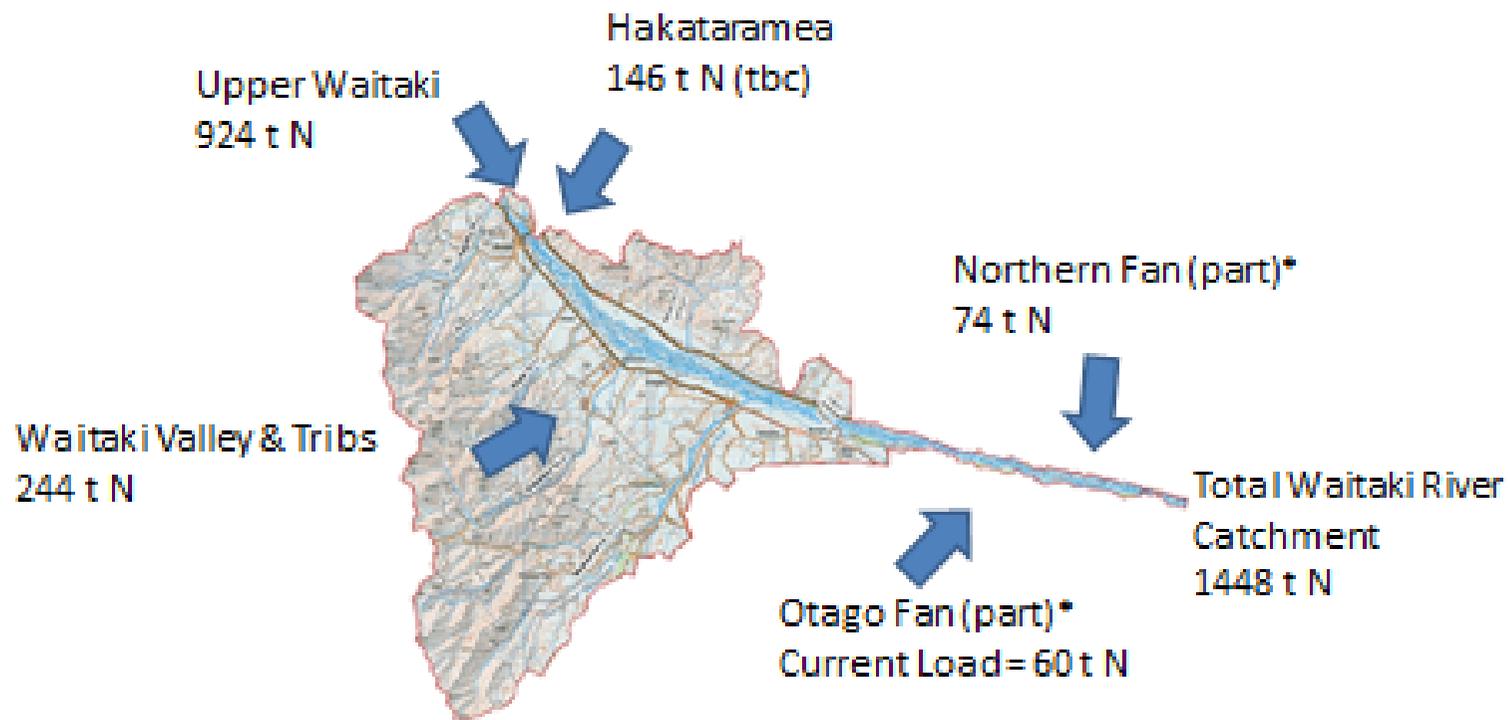
Table B - Draft N-load limits for urban and industrial discharges.

Catchment		*Load limit (t/yr)
Valley and Tributaries		Kurow Township 0.5
Northern Fan	Waikākahi	Glenavy Township 0.5⁴

⁴ Estimate based on Kurow loadings; Glenavy is serviced via individual septic tanks

Appendix Two:

CLUES results –ZIP Addendum ‘recommendations’



* contributions inferred from the groundwater flow paths

Everything is connected

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in the Canterbury region*

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