

# **ESSENTIAL FRESHWATER SOCIAL IMPACT REPORT**

## **ASHBURTON DISTRICT**

**A report prepared for the Mid-Canterbury  
Rural Support Trust**

**By Rachael Inch.**

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## Executive Summary

The National Policy Statement for Freshwater Management and associated legislation came into force in August 2020. The legislation intends to address water quality issues in New Zealand by providing a national objectives framework for freshwater management. The legislation affects all farming types. Given that water is a vital resource underpinning the socio-economic development of the Ashburton District, it is essential to understand the impacts of the rules and regulations on the people of the district.

The Mid Canterbury Rural Support Trust commissioned research to explore the social impact of the new Freshwater rules and regulations on the Ashburton District. A qualitative research method was chosen to enable a wide range of individuals and groups to share their ideas and experiences. The field work was completed between April and May 2021. This research also adds to the Essential Freshwater Economic Impact Report, produced in 2020 by the Ashburton District Council.

The research suggests that there has been an increasingly adverse impact on farmers and their families. Farmers were already struggling to cope with the pressures they were experiencing. Participants described multiple events, such as; Mycoplasma Bovis, banking reforms, Covid-19, and drought, as causing stress to farmers. The new rules and regulations then compounded the existing pressures, adding even more anxiety and tension to farmers.

According to the research, the initial engagement process for the freshwater rules, specifically the consultation seminar held in Ashburton, created anxiety, stress, and uncertainty for the agri-sector. The consultation seminar did not provide attendees a clear pathway; or a reassurance that there had been a thorough investigation into different farming systems' impact. Attendees also felt there was insufficient acknowledgment for the positive progress completed by farmers in the District under the Canterbury Water Management Strategy. There was little clarity about what the changes meant or how to implement the changes. The lack of clarity created confusion, distrust, and uncertainty.

Uncertainty has increased as time progressed. As the uncertainty filtered out to the Ashburton community, it impacted both farmers and agri-professionals. One of the critical impacts for agri-professionals was the increasing stress and tension when interacting with farmers. The uncertainty hindered their ability to plan, provide practical advice, and progress forward with projects. Simultaneously, banks and lending organisations were taking a more conservative stance with farm lending, restricting the ability of some farmers to access capital and stalling progress. In the absence of clarity, banks and agri-professionals took a more conservative approach to advising farmers, often referring farmers back to Environment Canterbury (ECAN). However, ECAN could not provide certainty around the required targets and limits or whether the CWMS still stood, resulting in more confusion and tension for farmers.

The research also explored the impact of the new rules and regulations on farm businesses. The findings suggested that the new rules and regulations could negatively affect farm sustainability indicators in several ways. Some farms would need to reduce production, limit diversification options, and increase capital and compliance maintenance and costs. In some cases, particularly in the Hekeao/Hinds area, participants felt the rules and regulations could mean losing many farming operations in the area. The findings suggested that the rules and regulations could mean an early exit from farming for some farmers. The investment required to meet the current rules and regulations

and the increased compliance and capital investment needed to change farm systems could exceed the capability of some farms. Some participants felt that there could be an impact on land value. However, it was speculative to say whether it would be positive or negative.

The decreased confidence in farming was a theme for young farmers as they described how the new freshwater rules impacted them. One of the concerns for young farmers was the way that the public viewed them. While many farmers use social media, the younger farmers reported having greater exposure to the negative public views on social media. Many young farmers felt that public view was so negative that it had begun to impact how they felt about themselves and what they do. Many reporting that they no longer saw a future in farming. Fewer young farmers willing to enter the sector could impact traditional family farm ownership in New Zealand, potentially shifting ownership towards corporatisation.

The research also explored the impact on the broader community. The findings suggested that the flow-on impact from a loss of farms and reduced spending in the district could affect the viability of some rural supply businesses increasing unemployment. Families could relocate away from the district, searching for work.

The research investigated the impact of the rules and regulations on the community and found that there could be an increased demand for social services. Smaller community groups and clubs have traditionally relied on sponsorship, donations, and volunteers from the rural community. The findings suggest that they could also see an indirect impact from the rules and regulations, with an increasing reliance on community funding to stay viable.

Participants of the research mentioned that there could also be a negative impact on smaller rural schools. For example, reduced school rolls as families move away from the district and the prevalence of increasingly negative interactions between urban and rural children discussing water quality in the classroom.

Mid-Canterbury Rural Support Trust continues to provide free and confidential support to rural people living in the Ashburton District. The Trust has a vital role in strengthening relationships with stakeholders in the Ashburton District. It is a recommendation that the Trust continues collaborating with key community stakeholders to provide support, tools, and resources to improve rural well-being and resilience in the district as farmers continue improving water quality on farm.

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## Introduction

Land and water are important natural resources which underpin the socio-economic development of the Ashburton District. The Ashburton District is considered a rich agricultural region that relies on the use of these resources to provide economic growth. In 2020, several pieces of legislation were passed into law that form the new essential Freshwater Package and have changed the way land and water is managed in New Zealand (Ministry for the Environment, 2020). Including:

- The National Environmental Standards for Fresh Water Regulations (NES-F),
- The National Policy Statement for Fresh Water Management (NPS-FM),
- Stock Exclusion Regulations,

The NES-F is intended to provide an immediate, short-term response to prevent any further degradation or loss of streams and wetlands. The NPS-FM provides a longer-term framework for improving freshwater quality. The fresh water package rules affect all types of farming with a greater impact on more intensive land uses. Feedlots, stockholding areas, winter grazing practices, nitrogen use and agricultural intensification are all outlined in the NPS-FM as being activities that will need to comply with the rules. These regulations could change the way a number of these farms are structured and how they operate. How different farming types are impacted by the rules depends on the way that the farming system operates and makes use of the land and resources.

In December 2020, the Ashburton District Council released a Land and Water Management Economic Impact Report detailing the freshwater reform's expected impact on agricultural productivity and the flow-on effects on the Ashburton economy (Fitzgerald, 2020). The report outlined the possible economic impact of the NPS-FM and associated legislation. The Economic report used conservative modelling data based on the current Canterbury Water Management Strategy; specifically, Plan Change 2, to estimate the economic impact of the new legislation. To date, there has been a limited evaluation of the potential social impact of this legislation. It is essential to identify how the rules and regulations may affect the people of the Ashburton District, and to determine whether the intervention will lead to any adverse effects on the way that people live, work, play and interact with each other.

This social impact report outlines the potential impacts of the NPS-FM and associated legislation on communities in the Ashburton District. It contributes to the Economic Impact Report that Ashburton District Council undertook. It also explores the potential effects on; farmers and their families, farm businesses, rural supply services, and the wider Ashburton community.

## Methodology

A qualitative research method was chosen to explore the potential impacts of NPS-FM and associated legislation on people and communities in the Ashburton District, New Zealand. This strategy enabled participants to share their stories, and enabled a deep and richer exploration of the complexity and connections between the rules and regulations and the unintended social consequences of the planned intervention.

### Ethical considerations

This research follows Massey University's Code of Ethical Conduct for Research Involving Human Participants (Massey University, 2017).

Research integrity and ethical responsibility underpinned the research process. In this research, integrity involved reaching conclusions that are not affected by bias or error, acting within the law, recognising and balancing any subjectivities or personal influences that a researcher may have, and ensuring the rights and well-being of participants are protected at all times. Ethics is about protecting the research participants. Ethics involves researchers showing respect for cultural beliefs, treating participants in an equitable manner, obtaining informed consent from participants, doing no harm during the research, and ensuring participant's confidentiality of private information.

### Data Collection

The purpose of the research and the information sheet were sent to participants before each interview, permission was obtained to audio record interviews, and confidentiality issues were discussed before the participants gave their informed and voluntary consent. The information sheet prepared for this research is located in Appendix A of this report.

Community meetings and semi-structured interviews were the primary data collection methods used. Participants were selected using snowball sampling. The interviews lasted approximately 25 minutes each.

At the beginning of each interview, participants were each given a short background description that defined the purpose of the research and some key facts. A copy of this can be found in Appendix B of this report. Research participants were then asked for permission to record their interview and their answers were formalised by note-taking, voice recording with consent and by transcribing the recordings. Two interviewees preferred not to be recorded but gave permission to use notes from their interview. Street intercept interviews were recorded by note taking only. Two participants chose to be interviewed via telephone. Both agreed to recording the conversation. Those participants were sent the same information sheets via email prior to the interview and participants were asked for confirmation that the information had been read prior to starting. Confirmation was received on both occasions.

After reading the background introduction paragraph, participants were asked six key questions which can be found in Appendix C. The first three questions were used to determine the level of understanding of the participants and which intervention they were responding to. This information has been integrated into the findings section of this report.

The community engagement phase of the data collection occurred between 12 April 2021 and 5 May 2021. The interviews were completed in a range of locations using a variety of methods. In total 39 participants were interviewed either individually or as a group including:

- Semi-structured interviews via telephone with 2 participants;
- A short workshop with rural professionals in Ashburton;
- Semi structured street intercept interviews with randomly selected Ashburton residents;
- A drop-in session at the Rakaia pub – young farmers, farmers, pub staff, community members;
- An informal discussion with Ashburton District Council and Environment Canterbury staff;
- Face-to-face semi-structured interviews in various locations with;
  - A Spokesperson for Hakatere Marae,
  - A rural contractor,
  - Seed merchant,
  - Filipino Dairy Worker,
  - Farmers,
  - Urban and rural business owners,
  - Agri-bankers,
  - Representative for a local meat processing company,
  - Representative who works in the social wellbeing space,
  - Real estate agent,
  - Water zone committee representatives,
  - Irrigation scheme representatives,
  - Environmental interest groups.

Other individuals and groups were contacted via email with an invitation to participate, including;

- Local veterinarians,
- Co-operative businesses,
- Federated Farmers,
- A representative at Arowhenua marae.

Given the importance of ensuring Tangata Whenua is included, a representative of Arowhenua Marae was approached via telephone, and a pre information sheet was sent via email. A follow up call was made and the representative forwarded the information to Aoraki Environmental Consultancy – who are a part of Te Rūnanga o Arowhenua (the environmental consultancy associated with the marae). Aoraki consulted with their team and declined to participate.

## Data Analysis

Interviews and workshops that were recorded were all transcribed by the researcher. Consent was given by all interviewees except one. One participant was approached via telephone for further clarification of the data.

An inductive thematic analysis strategy was used to analyse the data from the recorded interview transcripts, discussion notes and documents. This method was chosen to help identify common themes – topics, ideas and patterns of meaning that were repeated in the responses. The data collection questions have not been used as themes.

Data saturation was used as an indicator of the point where the interviews produced little or no new information relative to the purpose of the report. Data saturation is reached when the ability to obtain additional new information has been attained ([Guest et al., 2006](#)). This meant that a robust and valid understanding of the research was achieved.

## Limitations

This research was completed over a three-month period. This is generally a short time frame to complete the research and measure change over time, and this may have placed constraints on the availability of some data. There may be a case for a further Social Impact Assessment to be completed of the findings. With the exception of the random street interviews, sample bias may be present. The use of snowball sampling was used to determine participant selection. While every effort was made to include a cross representation of people from different backgrounds, it may mean that it is not a truly random sample of participants as it could be influenced by the potential bias of participants.

Although the research team are not located within the Ashburton District, one of the researchers resides in a neighbouring district and is familiar with the agricultural industry and was carefully monitored throughout the study by the senior social researcher who designed the methodology.

Another limitation is the presence of existing stress in the community. The participants of this study outlined adverse factors and events which have occurred prior to the research resulting in negative attitudes. It is possible that this could have contributed to how positively participants responded to the research. There was a strong negative response to the freshwater package, and as a result the findings reflect that the participants did not highlight many positive impacts.

## Background

### The Ashburton District

The Ashburton District is located in the centre-east of the South Island of New Zealand and spans from the Southern Alps to the Pacific Ocean. The district is also sometimes referred to as Mid-Canterbury. The district is bordered by two large braided rivers; the Rakaia and the Rangitata. The district also contains two other rivers which are referred to by locals by the English or Māori name for the river: the Hakatere (Ashburton) and Hekeao (Hinds) rivers. The district contains six rural townships: Ashburton; Methven; Rakaia; Mayfield; Mt Somers; and, Hinds. All of these townships are considered rural servicing towns for the surrounding farming enterprises (Ashburton District Council, 2021).

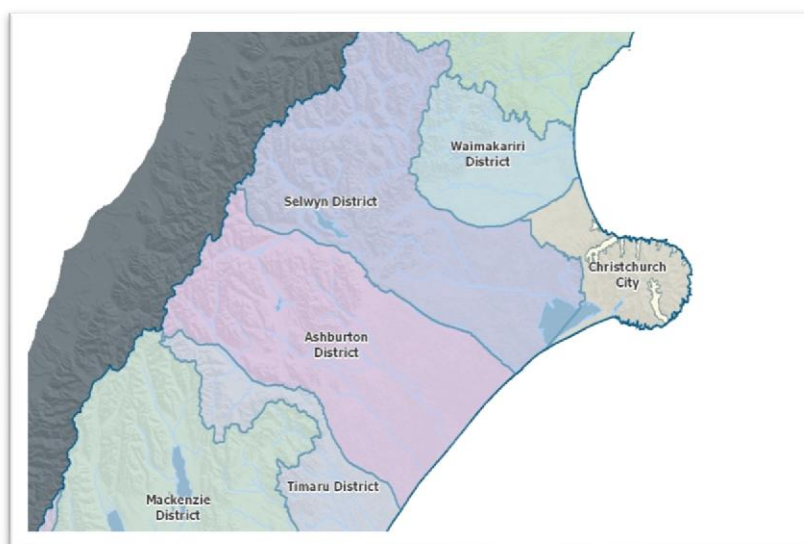


Figure 1: Location of the Ashburton District in the South Island of NZ

## History of the Ashburton District

The history of the Ashburton District provides context as to how the district became a strong agricultural area. During the research, agriculture was referred to by some people as *‘the pillar that held the district up’*. People described the importance of agriculture through the years and referred to the township as being originally a *‘trading town’*. There was limited availability of historic information on Māori in Ashburton, however according to the Ashburton District Council website, Māori travelled through Ashburton District as early as 850AD. Before colonisation, the district was a vast tussocky grassland with few trees and large braided rivers to the north and south which made crossing the river difficult. (Ashburton District Council, 2018)

The Hakatere Marae website [www.hakateremarae.weebly.com](http://www.hakateremarae.weebly.com) displays some information from various sources, that provide a short history of Māori in Ashburton. It states:

*‘It is recorded that early canoe travellers used Hakatere<sup>1</sup> as a resting point and food gathering place. These included Rapuwai, Hawea, Waitaha moa hunters and Ngāi Tahu.<sup>2</sup>’ The Deed of Recognition for Hakatere between The Queen and Te Rūnanga O Ngāi Tahu states – “the Hakatere was a major kai provider for Canterbury Ngāi Tahu, particularly those based at Kaiapoi Pa. The main foods taken from the river were tuna (eels), inaka (whitebait) and the giant kōkopu. Rats, weka, kiwi and waterfowl such as pūtakitaki (paradise duck) were also hunted along the river’.*

The website further describes how the Māori population was involved with agriculture in Ashburton and further states:

*‘The Māori population of Ashburton district has never been large, though a small and transient population was encouraged by the Fairfield Freezing Works and in shearing gangs. A Māori Women’s Welfare League and a Youth Club were established in the 1960’s. In 1970 the Canterbury Māori Committee obtained a lease from the Government for the disused Fairton school building and established the Hakatere Marae’.*

The first building in Ashburton was an accommodation house that was built on the north bank of the Ashburton River in 1858. Ashburton town was surveyed in 1863, and transport through a coach service opened up the next year. Farming was the founding industry of the area with John Grigg of Longbeach recognised as a leading farmer of the time. Mr Grigg later established the Canterbury Frozen Meat Company. Ashburton’s population slowly grew and the first school was built in 1872. The Canterbury Flour Mills



Figure 2: Historic Photograph of East Street Ashburton

<sup>1</sup> Hakatere – The Māori name for Ashburton

<sup>2</sup> Earliest peoples to inhabit Te Waipounamu were tribal groups known as Hāwea, Rapuwai and Waitaha who inhabited the island for centuries before the arrival of more recent tribal migrations of Ngāti Māmoe, Ngāti Wairaki and Ngāi Tahu. – source <https://my.christchurchcitylibraries.com/ti-kouka-whenua/tribal-history/>

was built the same year. Shortly after the establishment of the Canterbury Flour Mill, the Rakaia River was bridged connecting Ashburton with the fast-growing Christchurch just under 90kms to the north (Ashburton District Council, 2018).

## Present Day

Today, the Ashburton District is considered one of the most productive agricultural regions in New Zealand. Total agricultural land in the Ashburton District equates to 395,658 hectares located in the high country and 281,505 hectares in the plains. (Fitzgerald, 2020)

Currently, land used for dairy farming in the Ashburton district equates to 25.5% of the district with a further 6.4% devoted to dairy support giving a total dairy footprint of 31.9% of the district's agricultural land. Arable farming covers 20.6% of land, with sheep, beef and deer using a further 45.6%. This includes high country farming which makes up two thirds of that area (Fitzgerald, 2020). The district is described in this research by farmers and some industry representatives as having three areas of agricultural land. The Hekeo/Hinds zone, the hill country and the northern zone. This is further explored in the background section under the regional information.

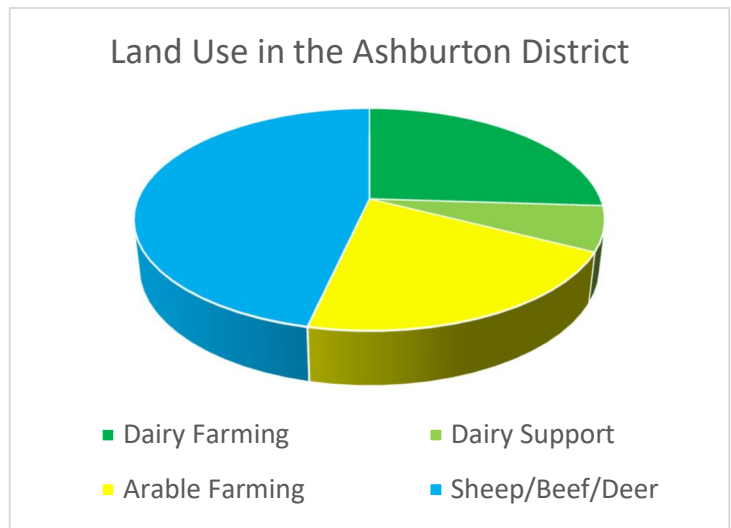


Figure 3: Land Use in the Ashburton District

The Ashburton District is of mainly European decent with approximately 10% of people identifying as Māori. According to the 2018 census (Statistics New Zealand, 2018), 83.8% of the population in Ashburton District identified their ethnicity as European, 3,333 people or 10.0% of the population in Ashburton District identified themselves as having Māori descent. Agriculture continues to be the

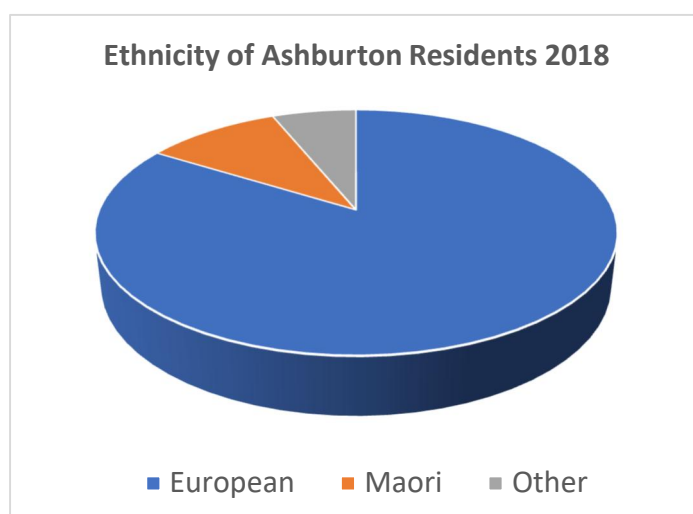


Figure 4: Ethnicity of Ashburton Residents

strength of the district's economy. The Infometrics New Zealand Regional Economic Profile (Infometrics NZ, 2020) highlights that agriculture and food processing accounted for 32.9% of Ashburton's employment in 2020. Primary industries accounted for the largest proportion of GDP (27.0%) in Ashburton District, which is higher than in the national economy (6.2%).

In 2015 the Ashburton District Council made a decision to attract migrant workers to the district in an effort to combat the aging populations and

economic decline of small rural townships. As a result, there are many migrant workers of different

nationalities who are employed in the district. Many of these workers are employed by the agricultural industry.

## Environment Canterbury

Environment Canterbury (ECAN) is the regional council responsible for managing Canterbury's natural resources (air, soil, water), and how land use affects the environment. The Ashburton District Council is responsible for looking after local roads and reserves, sewerage, building consents, the land use and subdivision aspects of resource management, and other local matters. ECAN has a legal responsibility under the Local Government Act 2002, the Resource Management Act 1991 (RMA), and within the resource consent process to account for Tangata Whenua<sup>3</sup> concerning the management of natural resources. ECAN works with and informs local authorities within the region in the nine districts of: Christchurch; Ashburton; Hurunui; Kaikoura; Mackenzie; Selwyn; Timaru; Waimakariri; Waimate; and Waitaki. The Ashburton District Council's work is guided by national and local legislation (for example, the National Statement for Freshwater Management, The Canterbury Water Management Strategy, the Ashburton District Plan).

## Water Management in Canterbury

During the research, people refer to the work of Environment Canterbury in improving freshwater environmental outcomes through the Canterbury Water Management Strategy (CWMS). The following section provides some background information as to what the CWMS is and its relevance to sustainable water management in the Ashburton District.

Prior to the Freshwater Package, Environment Canterbury (ECAN) had adopted a collaborative, community-led approach to sustainable water management under the Canterbury Water Management Strategy (CWMS). The CWMS is a statement of shared values and outcomes for water resource management in Canterbury. Targets of the CWMS are set for: 2015; 2020; 2040 and provide long-term environmental, social, economic, cultural outcomes reflecting a sustainable development approach to achieve the goals.

To achieve the outcomes of the CWMS, the wider community was able to have input via water zone committees. A zone committee was established for Ashburton District. The water zone committee recommend actions and tactics to the Ashburton District Council which are recorded in Zone Implementation Programmes (ZIPs). Regional and sub-



Figure 5: Canterbury Water Management Strategy Zones

<sup>3</sup> Tangata Whenua - used to describe the Maori people of a particular locality, or as a whole as the original inhabitants of New Zealand.

regional implementation plans and addendums were then adopted for each of those zones under the Canterbury Land and Water Regional Plan (Environment Canterbury , 2013).

The Ashburton District water zone committee consists of representatives from the Ashburton Community, Te Rūnanga o Tūāuriri, Te Rūnanga o Arowhenua, Te Rūnanga o Taumutu, Environment Canterbury and the Ashburton District Council. The Ashburton water zone committee, informed the subregional plan, known as 'Plan Change 2 of the Canterbury Land and Water Management Plan. Plan Change 2 included rules around irrigation schemes in the Ashburton District, guiding how they would and would not operate within the zone and provided targets for freshwater Nitrate – Nitrogen attribute levels for rivers. Under Plan Change 2, 6.9mgN/L or less is required. On 10 May 2018, ECAN announced that the Council had resolved to make the Hinds Plan Change (Plan Change 2) to the Canterbury Land and Water Plan. Further information on Plan Change 2 can be found located in Appendix E.

The NPS-FM requirements brought into force in 2020 are similar but different from Plan Change 2. For example, one of the new baseline nitrogen levels is for the Nitrogen attribute level to be reduced even further to a level of 2.4mgN/L per litre or less. The work for regional councils and communities to implement the new Freshwater Package is significant because the new regulations will supersede the current regional plan being the Canterbury Water Management Strategy. As a result, ECAN is now required to rewrite existing plans.

## The Ashburton District Council Economic Impact Report

During this research, there were many references to the impacts in the Hekeao/Hinds catchment and community. To provide context the following section refers to the Ashburton District Councils Essential Freshwater Economic Report (Fitzgerald, 2020) and highlights the significance of the NPS-FM rules and regulations to the Hinds area. According to the Economic Impact Report from the Ashburton District Council:

*'The Hinds Plains Catchment represents nearly half (47%) of all the plains area of the Ashburton District and is one-third of the entire agricultural land-use, including the high country. The natural resources (soils, rainfall, topography), geography, and community infrastructure are broadly similar but not the same as the rest of the district. The variation within the catchment is reasonably representative of the variation across the remaining plains area of the district' (Fitzgerald, 2020, p. 4)*

Fitzgerald's report identified a significant change in land use as farm businesses responded to the freshwater legislation. The impact assessment completed by the council used modelled data on current nitrogen targets of 6.9 mgN/l of dissolved nitrogen. The report estimated farm profitability across the district would decline by \$57.9 million/year (or 83 %), while farm expenditure within the district was estimated to decline by \$139.9 million/year (or 23%). Other impacts outlined included: impacts to all farming types, impact to service and support businesses, and employment impacts. An estimated 1,233 fewer people will be employed on farm or across the district because of the potential decreases in farm income. It was identified that farm businesses could move away from intensive, high input systems to less intensive, lower input farm systems. Complete system changes and land use changes were predicted to occur as the regulations became more stringent.

## Freshwater Reforms Announcement

In 2018 the New Zealand Government announced freshwater reforms that proposed a range of new rules and standards that set out a national direction for freshwater management. New regulations included:

- A new National Policy Statement on Freshwater Management (NPS-FM);
- National Environmental Standards for Freshwater (NES-F);
- Stock exclusion regulations; and
- Regulations in the measurement and reporting of water takes.

The requirements for the essential freshwater rules and requirements are set out on the Ministry for Environment website ([www.environment.govt.nz](http://www.environment.govt.nz)). A summary of some of the requirements are located in Appendix D of this report.

The Government opened public submissions to the proposed changes to the freshwater policy package in September 2019. An update on consultation presented to the Minister for Environment outlined details of a two-hour consultation workshop held in Ashburton in September 2019 (Denny, 2019). The document stated that:

- 340 attended this session – twice the capacity of the room booked;
- People engaged constructively with the proposals; however, there was much cynicism that they would be listened to;
- Attendees were concerned about nitrate bottom lines and potential impacts on peoples' mental health and the future viability of rural communities; and
- Attendees also expressed concern that the science behind the proposals was not robust enough and that there was a lack of supporting economic analysis.

## Other Interrelated factors

This report looks at the potential social impacts of the freshwater legislation; however, other factors were mentioned during the research and interrelate with the findings. These factors include unforeseen events that have occurred in the Ashburton district, and other legislative reforms released at the same time as the freshwater reforms which have impacted the Agri-sector; such as:

- The 2019 banking reforms,
- The Mycoplasma Bovis outbreak and eradication program in the Ashburton district,
- The 2021 Canterbury Drought.

In some cases, the above factors have either had a knock-on effect or compounded the reported impacts. The following section provides some context for these events in participant responses.

### The 2019 banking reforms

The way that banks have been interacting with their agricultural clients has reportedly changed in recent years, some of the changes are attributed to banking reforms which were happening around the same time as the freshwater reforms were announced. Under its mandate to maintain our economy's financial stability, the Reserve Bank of New Zealand (RBNZ) has been reported as

expressing repeated concerns about agribusiness. In an article published by DairyNZ (DairyNZ, 2020) the RBNZ expressed concern over the growth of agri-business debt and the effect of volatile commodity prices on how this borrowing is managed. As a result, lending rules have changed. Giving a background about the changes that the RBNZ have made provides context for how some farmers have described the impact of the freshwater requirements on their ability to meet costs; and the way that some banks are describing the interaction with their clients around this legislation.

The RBNZ's changes to bank capital requirements mean banks will need to hold additional capital against lending. The higher the risk profile of the business, the more capital banks must hold against each loan. A media report published on Stuff News quoted the Minister of Agriculture, Hon. Damien O'Connor; as being aware of this issue, saying; *'that the banks were already coming down hard on pretty much all farmers to reduce their debt and limit their access to working capital and were generally being bloody difficult to farmers'* (Anthony, 2020).

### Ashburton's Mycoplasma Bovis Eradication Programme

Mycoplasma Bovis (M. Bovis) is a common cattle disease in overseas dairy countries but had not been detected in New Zealand until July 2017. The Ministry for Primary Industries (MPI) announced a national eradication program on 28 May 2018. MPI reports that Canterbury, including Ashburton, had the largest number of outbreaks in New Zealand and has recorded 132 cases of the disease. Of these, eight properties are still affected with active cases (Ministry for Primary Industries, 2021).

During the research M. Bovis was mentioned by some respondents as having an impact on the Ashburton community. Some interviewees were directly involved in the M. Bovis response either through providing social support, or on farm. Those interviewed who provided social support were not currently connected with the Rural Support Trust but described the pressure on availability of counselling. M. Bovis depopulation orders were placed on some farms that tested positive for the disease, which meant whole herds of cows had to be culled. The culling had a reported economic impact on farms and reportedly placed farmers under mental distress. A spokesperson for a beef farm described ongoing stress for farmers dealing with M. Bovis and believed that the freshwater package rules and regulations have added an extra layer of financial and emotional burden on some of those farmers.

### The 2021 Canterbury Drought

The region has also experienced extreme weather events that have impacted farmers. On 28 April 2021, the government announced support for the drought-stricken areas of New Zealand. The Ashburton District was included in this announcement. The drought is recorded as the second consecutive year of drought where low groundwater levels have not been able to recharge.

Some respondents in the research spoke about the drought as having an impact on their stress levels and spoke about the need for farmers to be resilient in times like these. Respondents referred to the impact of the freshwater legislation changes resulting in increased financial pressure and additional stress.

# The Findings:

## Introduction to Findings

The findings of this research are presented in three sections and written in an order that takes into consideration the timeline and importance of some events related to the National Policy Statement for Freshwater Management and associated legislation. The first section begins when the NPS-FM was introduced, specifically, the consultation meeting where some participants of the research attended in Ashburton in September 2019. The first section gives context to the introduction of the rules and regulations, and describes the environmental work that had been already completed as part of the Canterbury Water Management Strategy.

The second section of findings describes the uncertainty that was generated following the NPS-FM consultation meeting and explores how the participants responded to the uncertainty.

The third section of findings describes the potential impacts of the freshwater package. The findings look more closely at the ways that the freshwater rules and regulations could impact farm businesses, farmers and their families, and the community.

## Section 1.

### The NPS-FM consultation seminar

When the government announced the freshwater reforms, Environment Canterbury (ECAN) and some farmers were engaged with the Canterbury Water Management Strategy (CWMS). During the research participants reported that ECAN have already *'spent a considerable amount of time and money'* to oversee the CWMS. According to a spokesperson for ECAN, *'there are still onerous targets for farmers to meet in those plans.'*

During the research, farmers and industry representatives described attending a seminar in Ashburton introducing the new NPS-FM in September 2019. Attendees represented different backgrounds, including; farmers, Agri professionals, Agri-sector groups, environmental groups, and urban people. Some research participants described what it was like to be at the seminar. A few participants mentioned that they saw the farming community expressing stress, upset and anger. For example, a spokesperson for an environmental group described:

*'I went to the seminar in Ashburton where the National Policy Statement was introduced. The seminar was well attended by the farming community. There was a lot of upset and anger with what was produced. I cannot comment on the financial impact, but there was definitely mental stress. There was a lot of yelling and comments made on the impact of the rules.'*

She also commented on the mixture of rural and urban attendees and made mention that she believed the urban attendees to be more supportive of the legislation, but felt the legislation did not impact them the same way as farmers who may experience more financial impact from the rules. She explained:

*'There were not as many people there from the more township areas, but those who attended were perhaps a little more supportive of the legislation coming down. They were looking at it in terms*

*of water quality and a recreational view. However, they would not be required to make the rural industry changes, so it is probably unfair to say that they were coming at it from the same angle’.*

A spokesperson for a different environmental group mentioned that the turnout to the consultation seminar was ‘quite massive’ and felt that the government representatives were unprepared and unable to answer the concerns raised. She said that this created uncertainty for the industry. She commented:

*‘The representatives of Ministry for Environment were unprepared and could not answer the questions, so they went to a minister who was better able to answer questions. One of the ladies answered the initial questions, but as soon as people tried to pare back what it meant at ground level, they were left entirely wanting. So, all that did was raise concerns again because these guys had no idea’.*

An agri-banker also recalled attending the meeting and described seeing people in attendance displaying heightened anxiety, anger, and a ‘sense of hopelessness’ at the changes. He said that there was a ‘strong negative vibe in the room’ and felt that it was due to the lack of acknowledgment for work already done. He further explained:

*‘The obvious thing was that there were some questions asked, and the guy that was presenting could not answer them. He came across as unprepared and with the attitude of ‘well, I did not deal with that, so it is not my problem’. He delivered someone else’s message and did not know the basis behind the message’.*

The Agri banker also indicated that the attendees were told that the work of ECAN as part of the CWMS had to be re-written. He described the anger that he saw his clients displaying, citing a waste of time and resources. He said that farmers were worried about their ability to continue farming. He commented:

*‘The district has done much work around environmental change over the last decade, and then the government presents a lot of new rules that meant what we had all done had to be thrown out and start again. Clients are saying they have done all this work and spent money around environmental plans, set limits, done their research, come to understand what operations are doing and doing their best, and now they have to add another level of cost. What underpins all of what they are saying is them questioning what impact it will have on their ability to continue to farm’.*

The following responses describe the work that Canterbury farmers and ECAN had done as part of the Canterbury Water Management Strategy, giving context to why there was a strong negative reaction to the introduction of the freshwater rules and regulations.

## Water Management pre NPS-FM

Many of the farmers interviewed reported contributing resources and manual labour for collaborative projects that improved environmental outcomes on-farm. Farmers described their contribution in different ways. Several respondents spoke about the work with ECAN as ‘working very well as it worked with individual agribusiness systems and farmers’ but also made statements like ‘the government had ignored them as farmers, and ignored the positive work of ECAN in Canterbury’.

There were a number of non-farming participants who also gave recognition for the work that farmers had done. These participants recognised the work was in a primarily voluntary capacity but expressed concern that other areas of the country might not be as far along in the journey as the Ashburton District. An agri-consultant felt that progress that has been made was not recognised in the *'One-size-fits-all approach'* from government. He stated:

*'Many people throughout Canterbury have made changes on-farm; some of it has been voluntary. Farmers have nutrient budgets and farm environment plans in place. Many are on the journey doing lots of good stuff nationally, but they have not got the same teeth in the environment plans and budgets as Canterbury does'.*

One sheep and dairy farmer spoke about contributing land through partnerships with environmental groups such as QEII trust and proudly explained how he had contributed to improving environmental outcomes. He said that he had spent thousands of dollars to plant and fence. He also said that he was proud of his wife, who had completed much of the planting and acknowledged the many hours of labour that she had contributed. He explained:

*'We donated 6.5 hectares to the QEII Trust and probably spent about \$30,000 on planting and more on fencing. We have probably spent about \$80,000 over the year. My wife does a lot of the planting. She works two or three hours a day just planting and weeding'.*

The sheep and dairy farmer's demeanour changed when he finished his description of the work that had been done with a comment about the lack of recognition from the government and New Zealand. He added:

*'People don't realise what has been done for them. People need to realise that we farmers have been helping them. Maybe then they will recognise that we have done a lot instead of calling us bad farmers'.*

A young fifth generation intensive cropping farmer wearily spoke about how he felt about the lack of acknowledgement for the work that had been done by farmers. He gave a personal account of how he felt the country had forgotten about farmers. He added:

*'It costs ECAN about \$25 million to overwrite the plans, yet we have spent to get to that standard. There's no acknowledgment of what we have all done to get here and get their targets done. It makes me feel disappointed and completely over it. It feels like the country has forgotten about us'.*

## Section 2

This section of findings describes the impacts of the uncertainty generated following the NPS-FM consultation meeting. Uncertainty was a major theme of the research. Initially, uncertainty emerged in response to the NPS-FM seminar in Ashburton, then, as time has progressed, and the rules have become clearer, the participants responded to the new freshwater rules and regulation changes. Specifically, participants were uncertain about how to implement the required changes and what the potential impacts could be on farms.

## Uncertainty emerges

Uncertainty was a key impact of the announcement and consultation process of the freshwater rules and regulations. According to participants, the NPS-FM consultation held in Ashburton in 2019 created a great deal of uncertainty around what farmers are and are not allowed to do, when they must meet targets; and what will be involved to reach those targets. At the time of the NPS-FM coming into force in 2020, some participants described how Environment Canterbury still had not provided Canterbury farmers with clarity about what the NPS-FM will mean to the existing timeframe and targets of the Canterbury Water Management Strategy.

An agri-professional described the emerging uncertainty as *'affecting the entire agri-sector'*. She believed this was because ECAN had not indicated whether the existing CWMS would continue its current targets or whether it would immediately cease and a new strategy written. She explained:

*'ECAN has not indicated whether they are having to start again with these planning processes or allowing the current planning processes of the Canterbury water management strategy already in place to run out their term. Then another one comes out after that. There is a great deal of uncertainty that has generated for the agri-sector'.*

## Impact of uncertainty on Agri Professionals

After hearing about the uncertainty about what the rules will mean for the district, agri-professionals described how the uncertainty impacted the way that rural professionals and banks interacted with their farmers and in some case with ECAN. The following sections describe the impact of this emerging uncertainty on rural professionals.

Several rural professionals described a range of ways the uncertainty affected them. These impacts, included: affecting their ability to plan with and advise their clients; changing how clients interact with professionals; and making their roles more stressful.

Agri bankers described how the uncertainty impacted their ability to support farmers with budgeting and planning. One agri-banker said the uncertainty was widespread and felt that it caused an inability to create environmentally and economically sustainable plans with clients. A key concern for him was that farmers were unable to provide banks with proof of future income. This was because the freshwater rules and regulations could decrease productivity, resulting in a difficulty for farmers to satisfy the banks' lending criteria. He explained:

*'At the moment, the lack of clarity creates much uncertainty. From an environmental perspective, there are many things that we are unsure about. Our farmers are unsure; our trusted advisors outside the bank are also unsure. When we are trying to create a sustainable strategy, both environmentally and financially, which is essential to a bank, there is no certainty around what the rules may look like for everyone.'*

Other agri-professionals also responded to the uncertainty as affecting their ability to support their clients properly. One advisor who works closely with farmers on farm summed up how difficult it was to do his job and advise farmers on the rules. He said that it affected his ability to advise on the next steps to take as a business. He appeared frustrated and animated when describing how the uncertainty had hindered farmers ability to make operational change. He commented:

*'Our job is to know these sorts of rules and regulations and know-how to point farms in the right direction to get help, but if I still do not fully understand then how are these farmers expected to understand it and plan for it? If rural professionals like me cannot provide the support and clarity that a farmer needs to make an operational change, how can they change?'*

Another group of rural professionals who work with farmers are the private irrigation schemes. There are a number of irrigation schemes within the Ashburton District, operated by private irrigation companies. A spokesperson for one of the Ashburton based irrigation schemes felt that being able to represent their shareholders and understand the approach of local authorities gave them a broader perspective on the current and potential impacts of the legislation change. She felt that one of their roles is to work closely with farmers and provide information on what legislation changes mean from a *'practical perspective'*. The spokesperson said that the uncertainty had changed parts of her job because the company was *'busy having to be a change management company'*. She recalled how the uncertainty had meant that she was unable to provide farmers with guidance during this *'really volatile, uncertain and ambiguous time.'* In her view the irrigation scheme had taken an approach to protect the entire scheme and had been directing farmers towards the more stringent rules of the CWMS in the absence of clarity. She further explained:

*'ECAN is not sure what the legislation means. They take a very cautious approach in needing to do what they already have in place and dealing with what the central government wants. We cannot tell our shareholders what ECAN wants. So, when a farmer comes to us wanting to make a change, we cannot give them any answers. Usually, it would fall under the discharge consent that we hold for land use activities, but we do not hold consents under the freshwater legislation, which controls the same thing, so we have to send them to ECAN. Then there is a potential confusion that arises because ECAN advises that a farmer can do something when we are firmer to protect our global discharge as a whole'.*

The uncertainty about what the rules mean was highlighted as a key issue for an environmental group working on current environmental projects. A spokesperson for an environmental group expressed that she was pleased that there was some action around improving water quality, but had concerns about the way that the freshwater package had been announced. She described the collaborations she had with farmers prior to the NPS-FM being announced as being upbeat. She happily described her work with farmers and said that she enjoyed focusing on finding *'wins between environment and agriculture'*. She became serious when speaking about the uncertainty generated in response to the NPS-FM seminar. One of her concerns was the shift in the willingness of farmers to collaborate. She felt that the uncertainty was *'creating tension, thwarting progress, and disengaging the more proactive farmers.'* She further explained:

*'When the draft NPS landed here, there were many unknowns. It had a rippling effect, people dived into the bottom lines, and that shock and concern grew. The change coming from top down concerned me as there was no recognition for work already done. I saw it disengaging those that we had already engaged on the journey, and their attitudes shifted from being along the journey to feeling that there was no bloody point because now they were being lumped in with the guy down the road who was not doing anything to improve environmental outcomes. There was a large volume of people who were seeing opportunities around community or farmer led change and now people were saying things were being imposed like a blunt instrument. Everything has now slowed down and what we*

*have to do has beefed up considerably, but our ability to do it has stopped and that feels quite paralysing’.*

## Section 3

The third section explores the potential impacts of the freshwater package on: farmers; their families; their businesses; rural supply services; the community and the wider district. The data presented also describes some key findings about Hekeo/Hinds; and describes some of the ways that the freshwater rules and regulations affect some key sustainability indicators of farming businesses.

### The Impact on Hekeo/Hinds Area

During the research, people repeatedly referred to the area that includes Hinds and all land surrounding the Ashburton River. This is an area that participants believed would experience the biggest impacts from the Freshwater rules and regulations.

According to a spokesperson for an irrigation scheme, Plan Change Two of the CWMS involves a target of 30% reduction in Nitrogen levels in rivers and waterways by 2035. He explained that the new freshwater rules and regulations requiring a level of 2.4mgN/l could mean that there would be no farming in the Hekeo/Hinds area. He went on to describe people as feeling afraid that their ‘community would be decimated’. Participants in the research reported feeling apprehensive that there may be an expectation set for everyone to achieve the same level as Hinds across the district. The irrigation scheme spokesperson also felt that although there were hotspots that needed to be addressed, the blanket approach of the rules and regulations could mean there would be a mass loss of farms to achieve the targets. He explained:

*‘Everyone is apprehensive to say what they can achieve; bear in mind that we have just talked about getting to 6.9 mg/l People are saying they are not even getting to 6.9 mg/l and at a loss at how we can as a farming community achieve 2.4mg/l. For many people, that is unimaginable, and that is our community decimated. It would be better if that were required to be done in the next 10 to 15 years after the current targets. However, if these levels were required now, we are looking at a huge impact. So that is the concern that’s starting to percolate out there. Whether you like it or not, there are hotspots around Canterbury, and in those hotspots, stuff will have to be done. However, the concern is, what happens in those hotspot areas then gets to set the expectation for everywhere else’.*

According to a different irrigation scheme spokesperson, a modelling report has been completed and showed that at a target of 2.4mgN/L, ‘farms in Hekeo/Hinds including viticulture could not achieve the necessary reductions in leaching required.’ She explained:

*‘At the moment, that is impossible to achieve 2.4 mg/l in the drains at the bottom of the Hinds Plain. Farms need to be at 3.8mgN/L without irrigation, and when viticulture leeches a level of 10mgN/L, then there would effectively be no farming on the plains at all’.*

Other Agri-professionals echoed the concern about the potential loss of farms in Hekeo/Hinds. One spokesperson described the possible situation in some farming areas by comparing it to a similar situation in another Canterbury Water Management Scheme area – Waimakariri. He said that in

Waimakariri, farmers have been required to make changes and the farms had become unsaleable. He described a current situation where farmers were now exiting in that area and he felt that this situation could occur in Hinds. He further explained:

*'Farmers were required to make six tranches of 15% reduction over the next 50 years, which is a 90% reduction after getting to good management practice. I believe 24 farmers are in that catchment now, even though the plan is still going through the hearing process. Those farms today are unsaleable. You cannot bank them, you cannot attract staff, so effectively, those farms are changing land use. The farmers will do whatever they can now to exit those farms because now they are tarnished. Now initially, I thought that was incredibly unfair; that is like someone dying not over five years, but over 50 years; you would not wish that on your worst enemy, but that is the consequence of what we are seeing play out at the moment'.*

## Impact on farms and farm businesses

The following data relates to how the freshwater rules and regulations could impact farms and farm business and provide a deeper insight into the frustration and stress that farmers were reporting. One of the major concerns that farmers repeatedly mentioned was economic viability of their farms and for other businesses in the Ashburton District. Farmers also described how the freshwater rules and regulations could affect factors such as: productivity; stability; equity; and resilience of their farm. Such as:

- The rules would reduce the amount of productive land available to use,
- The nitrogen limits would mean that they had to limit the number of livestock, resulting in reduced income
- The cost of upgraded technology, consents, fencing and consultants would cause economic strain on the farm, with some farmers saying that it would be unviable to continue to farm
- The restriction on diversification, limited productivity options which affected the resilience of the farms to cover input costs in times of market fluctuations
- The capital value of their farm could change if there were fewer effective areas and diversification options because the land could be unattractive to buyers.
- The ability to service debt could be impacted by the change in production
- The changes that needed to be made in order to remain productive would require new irrigation systems, and that could mean removing several hectares of fencing and trees used as shelterbelts.

An example of how farm productivity could be affected was commented on by a rural professional. He described the impact that the freshwater rules had on reducing the farm's ability to increase production and feared that some farm businesses would not survive. He said:

*'The ability to increase production has gone. For as long as I can remember, farming has survived from increased productivity. Every year the farmers have improved what they do and get better at it. However, it only holds them in the same place financially; Not everyone will be able to decrease production and still stay viable, and people will fall off the ladder'.*

A hill country sheep, beef, and deer farmer described the requirements to fence waterways and the winter grazing rules from the freshwater package and what it meant for his farm. He felt that there were limited alternative options available to work with. He commented:

*'The rules dictate where we can and cannot graze stock. What it means is that we have to find alternative water sources for our livestock. By fencing off land we lose the ability to graze land. The reduced grazing area means we would have to increase the intensity of how we use the land. That increases our input costs. The way the land is, it is virtually impossible to fence every waterway. It is unviable to complete the fencing in just a couple of years. Economically we think we will be finished. The cost of compliance to meet the regulations exceeds our profitability. We also have an impossible task of trying to reticulate water up the back of the farm for stock to survive, let alone find the money at a cost of \$25 odd dollars a metre. Planting trees for carbon is not going to work for us either because; if we plant pines, 30% of the existing moisture will be sucked up to feed the trees, it is going to leave even less for animals and you can't earn enough from credits to stay farming'.*

According to a real estate agent, one of the restrictions around planting winter feed is centred on how much land can be used for winter grazing without consent. He gave an example of a client who has found it challenging to change his farming system because of the reduced options available to him. He described a situation of the client wanting to change operations to reduce leaching, but the halt on intensive dairy practices by the irrigation schemes meant that he was unable to make the change. He explained:

*'One example is the 10% of winter grazing rule which means no intensification. I have a client who runs a 200-hectare block of intensive bull finishing. He wants to convert to dairy, and his N leaching will drop almost half, but he cannot change because that is considered an intensification. Now tell me what is the difference between a bulls\*\*t and a cows\*\*t? It doesn't make sense. Surely if there is a 50% reduction in N loss then common sense would say that's better than what he is doing now?'*

Some farmers spoke about how the freshwater changes have meant there has been a move by irrigation companies and the council towards more stringent water takes for irrigation. One farmer said that restrictions on water allocation would have many consequences to his farm, for example, removing shelterbelt trees, upgrading an irrigation system, removing his flood protection set up, and drilling a well. The costs of making the changes would mean that he would be forced into either going dryland, which meant losing two-thirds of his income or selling the land. He explained:

*'From November to March, we will not be allowed to take the water we need. The only way around that for me is to put a well down, and I would need irrigating setups. I would have to remove all the shelterbelts on the farm except for the boundary ones. At present, every paddock has at least one or two shelterbelts of trees on it. I would have to remove all of that, and I would have to take out all my flood irrigation set up. So, the short and long of it is that it is going to cost about 3.4 million. Until the council comes up with their final decisions, there is no guarantees. According to my consultant, this farm will go dryland, which means our income returns will reduce by two-thirds. So at my late stage of life we just walk off farm, we will not be able to stay here, we just cannot do it'.*

The rules to fence waterways was also a concern to a young farmer. She wanted to highlight what the rules meant for the way that land is managed. She spoke about working on a high-country station and believed that the beef cows behaved differently to dairy cows. She described how farmers would graze the land on the river's edge to help manage weeds. In times of flood risk, the farmers would shift the stock. The rules to fence these areas meant that there would be an ongoing cost to farmers to re-fence the area every time there was a flood. She commented:

*'The stock exclusion rules are out in place all wrong. I worked on a high-country station; the animals did not even care about the water because it is just part of their natural landscape; dairy cows are a bit different because they do not see water much, and when they do, they all want to get in it. I have a friend that works on a farm up the back there it is on the banks of the river, runs 12km, now that gets flooded at least twice a year, he will be refencing it twice a year – it is just the way rivers run, and there is a creek at the front of it. He grazes it, but if there is a flood due, he moves all his stock out. Are you telling me that he needs to fence that every time it has gone underwater? It is just mad. Anyone knows that it's rough land up there, grazing it keeps the weeds down, but this new rule will kill his farm, and that means less stock, fewer lambs bought onto the plains for winter grazing, another job gone. It's just another roll-on effect to create two jobs that tick boxes. Sheep hate water, and beefies do not look at it twice. Dairy cows, I agree, should be fenced off'.*

## Increased Compliance

A key tool for farmers to prove the improved environmental outcomes on farm is the Farm Environment Plans (FEP). A FEP was required by ECAN to gain consent to farm under the CWMS. This compliance required farmers who did not understand the rules to engage with consultants. The costs involved were reported as being 'significant'. Increased compliance costs were identified as a potential impact, some farmers having to re-write existing farm plans to account for the new rules and regulations. According to many of the farmers and some professionals interviewed, the effects of implementing the new rules on the farm may also mean higher expenditure on capital in order to meet the requirements. One spokesperson for a beef operation said that *'there would also be higher costs in maintaining and monitoring the capital cost, which would then be passed onto shareholders.'* He said that shareholders are seeing increasing overhead costs and compliance costs which decreased profit margins. He explained:

*'We have the same amount of cattle, same kgs produced and our overheads are increasing. The shareholders ultimately pay for that, and they are questioning why they are investing in NZ when they can earn more money elsewhere like overseas and do really well'.*

An increase in compliance over more recent times has impacted some farmers more than others. Some farmers described the increasing paperwork requirements as *'stopping them being able to do the farm work'*. Many farmers reported feeling *'overwhelmed with paperwork'*, feeling *'farming has become something different and not what they signed up for'*. A few participants said that the freshwater package would mean that they had *'another level of paperwork to deal with'*. One spokesperson for an agri-business reflected on this increased compliance, and added:

*'The farmers are spending too much time with compliance issues than farming, which is probably the more significant impact on many of them. Farmers are fed up with time in the office when they need to be out making the farm work'.*

An agri-professional highlighted that the compliance requirements would increase technology use and felt that the legislation would increase the requirement for farmers to adopt technology such as Overseer, and monitoring equipment. He believed that the monitoring and measurement requirements had not been the same across agriculture. As a result, he felt that farmers who were not previously up to speed with compliance requirements perhaps were impacted differently to those who had already adopted some change. He described how some farmers may be affected by the compliance more than others. He commented:

*‘Some farmers, particularly those towards the hills, are less likely to have irrigation like the plains; it is a different style of farming. The monitoring and measurement processes have not been adopted quite the same. There is a lag in technology and skills, which has left many farmers suddenly in a panic, not understanding what is required’.*

## Impacts on farmers’ ability to access bank support

A few of the farmers interviewed reported feeling pressured by the banks to repay debt. This was a common theme with some farmers who said that it has impacted the way that they could farm.

Some of the farmers were worried that their ability to make changes to meet new freshwater rules and regulations would be hindered because they were *‘just trying to make ends meet’* and thought that they may not be able to access the funds that they needed to make the changes on farm. This is because they couldn’t prove their future income through diversification such as dairy support, and production with a change in stocking rates.

An Agri-banking advisor explained the way that the freshwater rules could impact on some farms and their productivity from a bank’s perspective. He spoke about the bank’s requirements for an agribusiness to have financial resilience to meet fluctuations in income. He expressed concern for clients who may be experiencing challenging times such as a drop in market price or drought, and acknowledged that the freshwater rules would impact the financial stability of some farms. He also noted that banks were now questioning the viability and value of some agribusiness customers. He explained:

*‘We know that one of the rules is 190kg N/ha/year which is blunt from an operative view. What that means is that farms will need to reduce stock, and that has two effects – income and productivity. So now we are saying, what is your farm worth now that it is less able to produce and you have less ability to generate income? So absolutely that has an impact on what we can lend and, in some respects, we have to take a more conservative approach’.*

A sheep/beef farmer displayed a multitude of emotions when describing the impacts of the legislation and its meaning for his ability to farm. Putting his head in his hands, he described feeling *‘backed into a corner’* with his recent dealings with his bank and described feeling *‘too much pressure.’* He described some of the increased costs to his farming system and compounded existing requirements from banks. He commented:

*‘The bank will not finance us properly now, so I do not know how we can afford to do any of it; they have pulled back their support, removed our ability to access cash flow in rough times, and have been pressuring us to reduce debt. It is not just the cost of fencing and other water systems, but also the increased cost of compliance paying for advisors, then changing our stocking rates. We are already tight in the cost of genetics and meeting the increasing costs of breeding stock. I feel that we are being squeezed in every direction, and there is no relief in the money we get in from the markets – we have to pay more and earn less, and if you do not, then you are considered a bad farmer. Some days I think what’s the point?’*

## Impacts on land value

Some participants mentioned that the freshwater package was having an impact on the value of the land but they were not sure if the impacts would be more positive or negative in the long run. A real-estate agent spoke about land values changing because of the new freshwater rules. He said that the issues around environmental legislation was a *'hot topic'* for his clients. He felt that the impact of the freshwater legislation is unclear because the impact on farming profitability had not been fully realised yet. He added:

*'There would not be a day go by where these issues do not come up. The freshwater package is the number one topic for purchasers and vendors. It is hard to know the true impact because, on the one hand, it could increase the value of the land. After all, there is no more supply, but then, depending on how these issues affect farm profitability, it will become less attractive to go farming and reduce the value'.*

An agri banker described seeing a reduction in dairy sales from a banking perspective and felt that it was a direct impact of the uncertainty about the profitability of farms under the new legislation. He commented:

*'We went through 12 months of very few sales after the announcement of the freshwater rules because the dairy industry was unsure where they sat. This had an impact on both value and confidence, and this is happening across the board'.*

## The impacts on farmers and their families

Farmers shared stories about the deep connection to the land. Some identified with farming as *'who they are not just what they do'*. Many farmers who were interviewed said that they had been farming for their entire lives, and some young farmers were from a line of inter-generational farmers. Older farmers expressed their commitment and dedication to farming with pride. Overall, farmers passionately described a *'sense of responsibility'* to provide for their family, the district, and New Zealand. One older farmer shared memories of the early years of farming and the pathway to building a better life for his family under some challenging times. He described working many jobs to be able to survive the 1980's and the involvement of his family to build the farm. He said he felt that the freshwater rules *'undoes all the hard work done'* because he had to invest so much money into making changes to the water system on farm. He had tears in his eyes as he described the pressure that he felt.

Some farmers described the pressure that they were feeling from the media and government. One farmer said *'I'm shutting down because of it all'* and another commented that the freshwater issues had increased the *'negative perception of farmers in the public.'* Some participants believed that *'people don't really understand what's going on, you just feel forgotten about.'* One farmer commented that the pressure around public views was coming from both the government and the media. He said:

*'The pressure is not just coming from the government. It is the media as well. I think everything you read is negative, and it is all about how bad we are. Nobody gets up in the morning and says, we are going to screw over the environment today because we all know if we do not have clean water, then we all suffer, but people treat us that way as if we do'.*

A common theme from farmers was that they were feeling increasingly unable to participate properly in the decisions about things that affected their lives. One dairy farmer cited the freshwater package process as *'another example of people making decisions without talking to farmers properly'*. She also thought that there was not enough time given to farmers to help people understand the way farms work. She explained:

*'I guess that people do not understand what's going on. They make these decisions based on numbers and do not think about how it will work. They don't give you enough time to work it out and they don't talk to us about how it will work either. You just feel forgotten about'.*

A sheep and dairy farmer shared his story. He described feeling constantly stressed since the freshwater package was announced. He felt that the relationship between farmers and environmental groups had changed since the rules were announced. He gave an example of donating 6.5 hectares of land and fencing it off to protect it for future generations. He said that he felt *'incredibly upset'* because the same environmental group opposed his recent resource consent for water takes, he believed that it was because of the new rules and regulations. He said that he was *'struggling to keep up'* with the requirements of the regulations. He further commented:

*'When we came to our consent hearing the other day, I thought we had everything signed off and all right. Our irrigation take was already registered with the council, it was ok, we have had it since we bought the place, and before that, there was consent to take water from the river for the last owner. And the environmental trust objected to it because we are taking water? I'm still upset about that. I went to the doctor because I was getting a bit stressed from all of this stuff about the rules, measuring our water and the costs of consents'.*

Farmer's wellbeing and stress levels were a concern of many non-farmers. Comments were made about a *'shared concern for farmer's wellbeing'* by agri-professionals, industry representatives, and members of environmental groups. Some participants mentioned that the farmers who were living in more isolated areas would be more vulnerable to the negative change in mental health because the new rules would cause extra stress and worry, and there was less opportunity for farmers living in more remote locations to talk about it with others. One agri-professional described his interactions with farmers and what he was hearing from them:

*'It is quite a lonely existence for some of those farmers. They might not get off the farm for over a week and the only contact they have is with their wife, so they are sitting there thinking about it themselves and people like us as reps will come up the drive and will hear it all because they don't have anyone else to talk to. It concerns me because it's all we hear – its constant. Farmers are pretty stressed and worried about the new rules and regulations. So, I know that it is having an effect on their health just in listening to them'.*

A local community connector who works alongside the rural community, highlighted a concern for the growing number of people experiencing wellbeing issues in the district. She responded to the potential impact as being *'really concerning'* for farmers and how they would cope. She said that she was worried that the farmers would *'either not show how they were feeling or admit to needing help'*. She described pressures that farmers and Ashburton community members were experiencing as not just coming from the introduction of the new freshwater rules and regulations, but also from several concurrent events such as; Mycoplasma Bovis, Covid-19, and the Canterbury drought (refer to context section of the report). She was concerned about the resources available in the district to support the

rural community and described them as being *'already stretched'* she felt that there would be an impact on wellbeing services if farmers continued to be affected by the changes:

*'There are many farmers experiencing stress already and as a community we are actually under a lot of pressure as it is from the knock-on effects of covid-19 and things like M-Bovis in the community. So, I am thinking – how much more can we take -and wondering - is there going to be funding put into resourcing these services? With farmers and men in particular, it's really difficult for them to admit when they are not coping. When farm owners are under a huge amount of stress or when business owners who rely on the farming industry come under a huge amount of stress, then it becomes this knock-on effect and can become an even bigger problem to everyone around them, such as their staff.'*

A spokesperson for an environmental group had a concern for the stress and tension that she saw some *'good'* high country farmers displaying. She explained that the freshwater package required hill country farmers to fence off waterways and some of the farmers were saying to her that it could be virtually impossible given the way that the water runs on their property. The spokesperson mentioned feeling sad for those farmers who were doing everything they could to meet the rules and said that one of the farmers she worked with had begun to lose confidence for their future generations to be able to farm. She explained:

*'When I hear environmentally responsible farmers say to me – well we might as well shut the gates with the way it is legislated, I think it's sad. Here I am, seeing people who have done such a good job, and they are now asking what the future is for their children'.*

During the street intercept interviews, some urban residents commented about the potential impacts of the freshwater package on farmers and families. Some of these comments drew a comparison to the agriculture reforms of the 1980's. One resident used her memories of the past to describe what happened in the 1980's to farmers and believed that the current freshwater package was going to place farmers and their families in similar positions. She said she was worried for the farmers suicide rates could increase. She commented:

*'I can see farms crumbling as they did in the 80s. I heard stories in the 80s, where people just walked off their farms, and the suicide rates went up from the stress. I can see the stress on families around Ashburton now, and dare I say it, but I think there will be an increase of suicides. If the farmers feel stressed about money they have to find to pay for consents and try to keep it from their families, it is not a good situation'.*

A spokesperson for an irrigation scheme also expressed a deep concern for farmers. She cited the angst, disengagement, and shifts in wellbeing that they were seeing since the introduction of the freshwater rules and regulations. She said that there was a rise in the number of farmers expressing *'they may not be good enough to continue to farm.'* She mentioned that she was worried for the mental health of farmers and was concerned because one of the shareholders had ended their life a few years back. She said that she was worried that a potential impact could be that the pressure that farmers were already facing could compound with the stress around making changes under the freshwater package, and was worried that there could be an increase in suicide rates. She explained:

*'There are already pressures on farmers, we lost someone in our scheme a few years ago, and I do not even think we have seen the rubber hit the road yet. I am really worried about people's mental*

*health. It's not my area of expertise, but it is something that I am apprehensive about. I see that farmers have been doing everything that they possibly can do within their farming systems to make them better. We see improvements in groundwater quality, but now an arbitrary limit put on everything without considering the features of these drains, and people are saying - what more can I possibly do - how can I do this? I do not think I can do this - what is left for me? do I even want my children to get involved in the farm anymore? There is definitely great concern out there'.*

The pressure to exit farming was highlighted by some participants as a potential impact of the freshwater package on farmers and their families. Some participants suggested the increased exits were attributed to an aging generation of farmers who no longer had the desire to farm through the changes. Other participants said that it was due to the pressure farmers were under. According to a spokesperson for an irrigation scheme, some farmers are currently facing an '*unbelievably daunting decision*' to make in light of the freshwater package. Farmers who did not feel confident, or could not afford to make changes to their business to meet the rules may have to make a decision to sell their farm. One of the types of farmers he thought would be most affected was the older generation who were looking to retire. He commented:

*'It is unbelievably daunting for them, so if they are looking at that and saying, geez, this is a whole new world and their decision, do I sell today or sell in 5 years? They have already decided that they are selling; they are more than likely to make that call earlier'.*

The irrigation spokesperson further explained that if there were not enough young people with confidence in the future of farming then there would be an issue with the value of farms and exiting farming would be difficult for the older generation. He added:

*'The challenge is when that young farming couple loses confidence in the future. Then the older couple cannot get out and have golden handcuffs with the farm, and that is when you have got values that will drop, properties will become unmarketable, but that is the extreme position once you hit that you only go there once. Currently, we are not seeing enough good young people stepping up to buy the neighbours because we are going through a reset in our economy'.*

An agri-professional spoke about the increasing number of people selling their farms since the freshwater package was announced. He said that many farmers who were selling were saying that they did not see a future in farming anymore. He felt that farmers were now saying that they did not want the children to continue farming. He said that he could see this trend continuing as the freshwater requirements come into force. He further explained:

*'We have seen many people who have come onto the market and had to sell, saying we don't enjoy this anymore. How can we possibly do this? I do not think I can do this. What's left for me? I don't even want to get my children involved on the farm anymore'.*

## Impact on young farmers

Young farmers who were interviewed reported many potential impacts for them and their families in response to the freshwater legislation. Most of the young farmers interviewed spoke about the freshwater package creating extra compliance and costs. A few young farmers made comments that indicated that they had begun to lose interest in continuing to farm such as; the freshwater rules were '*adding to the reasons why I don't feel like going farming anymore.*'

One fourth generation young arable and vegetable farmer spoke about how the future is often discussed in the family. She spoke about the need for farmers to hire consultants to understand the freshwater package. She felt that the freshwater package was another level of paperwork that would disadvantage farmers who might not be able to keep up with paperwork. She used her brother as an example, and how she felt the new requirements could ‘disadvantage him’ because he might not be able to meet the compliance requirements (complete the paperwork). She mentioned that it frightened her to think about the costs to meet the freshwater rules and felt that farming was moving towards corporatisation and family farming would end soon. She explained:

*‘I reckon unless you corporatize, farming and family farming is finished here in New Zealand. Dad and I stay up all night debating this sort of stuff. You are going to have to go pay big bucks for someone else to do it and it’s just another person on the gravy train isn’t it and we just can’t afford that. Some of those bigger farms pay someone to do the overview of the farm they are big enough to do it and we can’t do it. I see the historic culture of family owning farms in NZ is getting less and less.*

A young fifth-generation crop and dairy farmer running their family farm spoke with a great deal of heaviness in his voice about what the freshwater legislation could mean for their agribusiness. He spoke about the modelling undertaken by their farm consultants to meet the required changes for reducing nitrogen limits, and their solution was a reduction in stock numbers. The young farmer and his family had played around with different farming system scenarios to see if they could reach the targeted levels without reducing their ability to repay debt and stay a viable business, but did not see a possibility. He described the stress of getting to a financial surplus after converting to dairy nine years ago and said that he had hoped to continue farming this way but was worried because he was not seeing a great future, especially as he saw people leave the industry. He explained:

*‘We are in the 9th season since we converted to dairy and only just set ourselves up. It is a tough one because we do not know what we can do for our system, we might have to change between crop and dairy, but then it takes more than that to grow a paddock of wheat. It makes you so nervous because it is all unknown, and you feel so stressed about how to make it work. You can’t see these things coming and do not know what is coming next. You sort of wake up one day and get slapped in the face with more rules. It is a drain on everything you do and gets you down a lot. My old man is getting sick of trying to make things work so that I can take over. I hope I can farm in the future, but I do not know. It has driven people out of the industry. My brother is a perfect example; he is working in town and does not want the stress of farming. He tells me there is no point in working 70 hours for nothing when he can earn a better living in town earning wages’.*

## Impacts on the community

The socio-economic impact created from the freshwater rules and regulations could impact the wider Ashburton district. One of the key concerns of participants was the economic viability of farms and how that affected the districts businesses and smaller townships. Many participants described the potential impacts on the community, such as:

- Rural and urban businesses closing due to an economic downturn on farms;
- Increased unemployment;
- Less spending in the district resulting in less support to community;
- Families relocating out of the district looking for employment;

- Negative impact on school rolls and interactions between rural and urban children;
- Reduced volunteers, sponsorship and donations in the district; and
- Increased demand for rural wellbeing services.

A resident living in the Ashburton township described feeling worried for the survival of some of the district's smaller townships. She felt that the changes farmers needed to make to meet the new freshwater rules and regulations would be too burdensome financially. She believed that there was a real possibility of forcing an early exit from farms, businesses in rural areas closing, and the family farms becoming corporate. She explained:

*'I am worried that the little communities will not survive as a result of the economic impact from the rules. It is the little stores like Mt Somers that will suffer the most because people will walk off the farm, and it will turn to corporate-owned – they do not support local like family farmers do'.*

An Agri-banker who works with farmers in smaller townships spoke about the potential knock-on effect of economic challenges from the costs of meeting freshwater rules. He felt that families could relocate out of the district, which could mean fewer children in rural schools, which would either affect the ratio of teachers to students as schools lost funding or could mean that attracting quality teachers to roles could be more challenging. He explained:

*'Our district is driven on agriculture around here. So, if these freshwater rule changes have the impact that I think they will, then there will be fewer people on farms. Fewer people mean fewer families at schools, families move out of the district, and that has an on-flow effect to teachers' jobs'.*

An agri-professional recalled her conversation with an owner of an Ashburton service business. She explained that the owner had done some budget modelling after the Ashburton District Council Economic Impact Report was released. The result of the economic impact caused by the freshwater rules and regulations was that his business would need to close, and 35 staff could lose their jobs. She explained:

*'Ashburton itself, as a service town to the rural sector, will fold. There was a local business who did some work on projected figures released by the council and found that it decimated his electronics business. So, he has 35 staff that he would lose. Thinking about that as a minimum impact - that's 35 families so it's a whole of community. Maybe you would still have Methven servicing the ski-fields'.*

Donations and sponsorship could also be impacted by the changes in farm incomes as farmers try to meet the freshwater rules and regulations. An agri-professional could see an impact on the availability of money for donations and sponsorship for local community events and activities. He felt worried as he believed that these are important for small communities that often rely on volunteers, donations, and sponsorship to stay viable. He further explained:

*'Anytime that you see money from farming draw back out of the community, then all of a sudden you have lost your clubs or donations to clubs. Whether you are into horse racing, the brass band the hockey club, the kids school fundraiser for their camp or whatever, it will draw out. You also won't get the parents fundraising for the kids for the local Christmas party to do catering and you think because businesses like ours will have to cut costs'.*

## Employment

Employment was raised as a potential impact of the changes that farms would have to make to meet the freshwater package rules. Those who mentioned employment were referring to the potential reduction in farm production and economic impact. An Agri-banker explained:

*‘Stocking rates will drop, production will drop, then there is less money into businesses, less into the community that lives and breathes off the income. By default, less intensity means fewer resources, and given that labour is a resource – displacement of jobs will happen’.*

Another participant said that the rules and regulations could mean the district has a big change in farming types which would affect employment. She reflected on memories of the 1980’s and believed that similar things could happen as a result of the rules and regulations. She added:

*‘There used to be heaps of sheep, and now you hardly see a sheep at all. My husband was a shearer, so the reduction in sheep means a reduction in work that he has and was available, which meant he had to go further and further away to get the same amount of work as there was in our district. It meant he had to leave his family for long periods and that had a strain on us. I think you will see people begin to move further away from families looking for work if there are big changes in farming types’.*

A seed merchant said that there could be a ‘huge impact on the district’ from the freshwater rules and regulations. He described what impact the freshwater rules and regulations would have on his own company. He said that the staffing numbers of his company could halve. He highlighted the winter feed requirements and the nitrogen limits as an example of how his business was affected. He explained:

*‘One of the worst-case scenarios is if farmers can’t graze dairy cows to the extent that they were. Obviously, that impacts their business, and if that impacts profitability, then it impacts on us. If they keep going down the track with the nitrogen levels, we are going to be virtually decimated. We have 18 employees throughout the company and seven reps on the road, so if this goes off the way it is I would say that we would be cut in half. I know that the Main Street is struggling now. If this continues the way it is, we would see a huge number of jobs lost’.*

## Schools

Schools were mentioned by some community members, as potentially being affected. Some participants felt that the economic impact from the freshwater rules would mean there could be less employment and cause families to move away from the district looking for alternative employment. A community member said that there was already an issue with sustainability of small rural schools and was concerned that schools in the smaller area would struggle and people’s sense of belonging to the area could be affected as a result. She explained:

*‘We look at the physical health but do not look at the social context. There will be an effect on the schools, especially up our way. There are already not enough kids going in and out, so it will be hard for schools to stay open and sustainable. People’s whole sense of belonging will be affected, and I think people who are affected by the changes need to have somewhere to go’.*

Early indications of tension between urban and rural children have begun to emerge in some local schools since the freshwater package had been announced. A representative for an environmental group explained that she had heard about teachers having difficulty managing the interactions between children from rural and urban backgrounds. She further explained:

*‘I hear of tension in terms of everyone being a part of the community and having an interest in water. We have heard of different incidents where there is an impact on different schools or families. When you have children from a farm environment and those from an urban environment, it can be difficult for the teachers to manage those interactions. Trying to move forward with environmental changes as a community can be quite challenging because there is such a stark disagreement between the two different views’.*

An Agri-professional working with farmers spoke about how farmers’ work regimes had increased through extra compliance and environmental work on top of what they already have to do on farm. He felt that this had already begun to impact the availability of volunteers at schools. He stated that he could see the freshwater package placing further financial strain on farmers and their families and felt that it would have an on-flow impact on the schools. He said that there could be a further reduction in volunteers, sponsorship, and donations. He commented:

*‘Farmers will have a bigger financial strain and because of that you will see fewer and fewer volunteers at the school and that will flow on to fewer volunteers and community sponsorship is suddenly not available, donations from the farm businesses dry up.’*

## Discussion

This study examined the potential social impacts of the National Policy Statement for Freshwater Management (NPS-FM) and associated legislation on the Ashburton District.

The data suggested that the initial engagement process for the freshwater rules, and the consultation seminar held in Ashburton, created anxiety, stress, and uncertainty for the agri-sector. This consultation seminar held in Ashburton did not provide attendees a clear pathway, or a reassurance that there had been a thorough investigation of the way that the rules and regulations would impact farming systems. However, it was felt there was insufficient acknowledgment for the positive progress completed by farmers in the district under the Canterbury Water Management Strategy. While it was acknowledged that the current targets had to be rewritten, there was little clarity as to what the changes meant or how to implement change. This lack of clarity created confusion, distrust and uncertainty. This uncertainty increased as time went on, and Environment Canterbury were unable to clarify what the changes mean to the current CWMS targets. This resulted in a decreased confidence in the sector on top of the uncertainty and confusion.

The confusion and increasing uncertainty about the rules and regulations also impacted on agri-professionals. These agri-professionals experienced added stress and tension in their interactions with farmers because they were also unclear about how the rules would affect agribusinesses. The lack of clarity meant that agri-professionals were unable to provide effective support and advice to farmers. Banks and lending organisations took a more conservative stance with farm lending, restricting the ability of some farmers to access capital and stalling progress.

There is an overwhelming indication that the introduction of the freshwater rules and regulations are having an increasing adverse impact on the well-being of farmers. The findings indicate that farmers were already struggling to cope with the pressures that they were under, caused by a series of events such as M.Bovis, and drought; and are now experiencing extra stress and anxiety from the introduction of this new legislation. The result of this is an increased need for wellbeing support and resources for the rural sector in the district.

The potential impacts of the freshwater rules and regulations on farm agribusinesses were analysed in depth. The data suggested that there could be a negative impact on all four sustainability indicators of an agribusiness which are: Productivity; Stability; Resilience; and Equity. The potential reduction in farm productivity from the rules and regulations coupled with increased compliance, and increased capital costs, could mean that some farms may become unviable, particularly in the Hekeao/Hinds area. Older farmers could be most impacted by the impacts, as they could struggle more with meeting the financial investment required to meet the rules and regulations; and they could struggle with the increased paperwork requirements forcing an early exit from farming for some.

The flow-on effects of the reduced farm productivity could also impact on the agricultural supply businesses. It is feared that some agricultural supply businesses may close. Closures could result in a rise in unemployment fewer jobs for farm workers and some supply business employees, a dislocation of families from the area, and an impact on schools through reduced rolls, and increased tensions between urban and rural children.

It was unclear if there would be a long-term decrease in value of farmland, however in the interim, the rules and regulations have created a stall in land sales and a decreased confidence for buyers. The restriction on diversification may negatively affect the value of some land types more than others, it was highlighted that this could include high and hill country farms.

Smaller townships could see a decrease in land value. The Hekeo/Hinds area would see the greatest impact with mass loss of small business and farms making the area unattractive to people to live.

There was a negative correlation between young farmers, the rules and regulations and their hope for the future. Some young farmers had lost confidence in agriculture and this may create a shortage of young farmers willing to purchase land, a decrease in family farming and increase corporate farming.

The economic changes to farms could impact on community organisations such as local clubs. The data indicated that there could be less participation and support from the farming community as the economic changes in response to the freshwater rules and regulations begin to affect farms. Farmers would have less financial ability to support local and this reduced community support from agriculture could create an increased need for these groups to rely on alternative funding sources, such as; The District Council and external community funders. The reduction in volunteer participation could reduce community connectedness and increase social isolation for rural families.

## **Conclusion**

The new freshwater rules and regulations have wide social implications for people in the Ashburton District. In the past, water quality issues have been addressed through a community led approach to water management. The new rules and regulations have been introduced in a way that has accelerated the urgency of achieving improved water quality; but fails to take into consideration the on-flow socio-economic impacts of such an intervention on some rural communities such as the Ashburton District.

It was evident during the research that the people of the Ashburton District are proud of their agricultural sector and work together to strengthen the community in which they live. A shared commitment to tackle the complex environmental issues, including a willingness from government to work with farmers to create a time appropriate pathway for water quality improvements would result in a more effective and sustainable change in the way that land and water is managed and could achieve more positive social outcomes.

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# Appendices

## Appendix A

### Social Research

#### Information for interview participants

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##### Background

This social research is funded by the Mid-Canterbury Rural Support Trust. The Trust want to explore the potential social impact of legislation on people and communities in the Ashburton District, including the impact of:

- The National Policy Statement for Fresh Water Management (NPS-FM)
- The National Environmental Standards for Fresh Water Regulations
- Stock Exclusion Regulations

##### Social Research Purpose

- To explore the potential social impacts of the NPS-FM, and associated legislation, on communities in the Ashburton District; and
- To inform and contribute to the Economic Impact study being undertaken by Ashburton District Council.

##### Research methodology

This qualitative research will include workshops, community meetings and semi-structured interviews. A range of individuals will be involved, including: farmers, rural professionals, rural industry representatives, interest groups, council staff, urban people and business owners.

##### Research team

The research team comprises Rachael Inch and Dr Heather Collins.

##### Research ethics and participant's rights

All answers will be confidential and anonymous. Your name and identity will not be stated in the report.

With your agreement, the interview will be tape recorded to ensure your ideas are captured accurately. The taped interviews will be transcribed. Either the researcher, or a transcriber who is bound by a confidentiality agreement, will transcribe the interviews.

If you agree to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study;
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used unless you give permission to the researcher;
- ask for the audio tape to be turned off at any time during the interview; and
- be given access to a summary of the project findings when it is concluded.

## Appendix B

### **Background information given to participants prior to interview.**

Land and water are an important resource which forms the basis of how people in the Ashburton District live, work, play and interact with each other.

Several pieces of legislation were passed into law in 2020. These include:

- The National Policy Statement for Fresh Water Management
- The National Environmental Standards for Fresh Water Regulations
- Stock Exclusion Regulations

This legislation is intended to address a range of issues associated with freshwater quality and land management.

This legislation could impact on farm businesses in the Ashburton District. Economic impact research conducted by the Ashburton District Council suggests that these regulations could:

- Have more impact on intensive land uses.
- Reduce farm productivity and profitability.

## Appendix C

### Research questions presented to all participants.

The research questions asked were:

1. Have you heard about this legislation?
2. Where did you hear about it?
3. What have you heard?
4. How do you think this legislation might impact on farmers and their families?
  - a. On farmer's businesses?
  - b. On rural service and supply firms?
  - c. On rural communities?
5. How do you think this legislation might impact on you and your business?
6. How do you think this legislation might impact on the towns? On the wider District?

## Appendix D

The Freshwater requirements listed below have been directly sourced from the Ministry for Environment website:

<https://environment.govt.nz/acts-and-regulations/national-policy-statements/national-policy-statement-freshwater-management/>

Prioritise the health and wellbeing of water bodies, then the essential needs of people, followed by other uses.

- Designed to improve degraded water bodies, and maintain or improve all others using bottom lines defined in the Freshwater NPS-FM.
- Give an expanded national objectives framework with two additional values - threatened species and mahinga kai<sup>4</sup> - join ecosystem health and human health for recreation, as compulsory values
- Direct councils to develop plan objectives that describe the environmental outcome sought for all values
- Provides new attributes, aimed specifically at providing for ecosystem health, include fish index of biotic integrity (IBI), sediment, macroinvertebrates (MCI and QMCI), dissolved oxygen, ecosystem metabolism and submerged plants in lakes;
- tougher national bottom lines for the ammonia and nitrate toxicity attributes to protect 95% of species from toxic effects (up from 80%)
- Avoid any further loss or degradation of wetlands and streams, map existing wetlands and encourage their restoration.
- Identify and work towards target outcomes for fish abundance, diversity and passage and address in-stream barriers to fish passage over time.
- Set an aquatic life objective for fish and address in-stream barriers to fish passage over time.
- Monitor and report annually on freshwater (including the data used); publish a synthesis report every five years containing a single ecosystem health score and respond to any deterioration.

Local authorities are also required to give effect to:

- National Environmental Standards for Freshwater
- Stock exclusion regulations
- Water measurement and reporting regulations.

The Freshwater NES-F set requirements for carrying out certain activities that pose risks to freshwater and freshwater ecosystems. Anyone carrying out these activities will need to comply with the standards. The standards are designed to:

- protect existing inland and coastal wetlands
- protect urban and rural streams from in-filling
- ensure connectivity of fish habitat (fish passage)

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<sup>4</sup> Mahinga kai/mahika kai literally means 'to work the food' and relates to the traditional value of food resources and their ecosystems, as well as the practices involved in producing, procuring, and protecting these resources.

- set minimum requirements for feedlots and other stockholding areas
- improve poor practice intensive winter grazing of forage crops
- restrict further agricultural intensification until the end of 2024
- limit the discharge of synthetic nitrogen fertiliser to land, and require reporting of fertiliser use.

Under the stock exclusion rules from 2023 (regardless of slope):

- All dairy cattle must be excluded from lakes and rivers more than 1 metre wide and all dairy support from 2025.
- All cattle and deer must be excluded from lakes and rivers more than 1 metre wide, where land is used for fodder-cropping, break feeding or grazing on irrigated pasture.
- Wetlands (regardless of slope) already identified in a regional or district plan must have cattle, deer and pigs excluded by 1 July 2023. Otherwise, cattle, deer and pigs must be excluded by 1 July 2025.
- On land mapped as low slope (which is supposed to be “less than 10 degrees slope”) beef cattle and deer must be excluded from lakes and rivers more than 1 metre wide by 1 July 2025.

## Appendix E.

### Key features of the Plan Change 2

As referenced in the following source - (Environment Canterbury, 2018)

Restrictions on further land use intensification until nitrate levels are at or below an average annual groundwater concentration of 6.9 milligrams per litre (the national bottom line).

Properties will still be able to develop under the Rangitata Diversion Race Management Ltd (RDR) and Barrhill-Chertsey (BCI) irrigation scheme discharge permits until their expiry. The plan change provides a pathway (through a resource consent) for the continuation of the RDR and BCI schemes, but there are limits on the amount of nitrogen leaching that is allowed.

Good management practice is required for all farming activities. Land users are permitted to increase nitrogen losses up to 15 kilograms per hectare per year without requiring consent.

Properties exceeding 20 kilograms of nitrogen per hectare per year will be required to progressively reduce their discharge beyond good management practice levels by:

15% by 2025

25% by 2030

36% by 2035

They will not be required to reduce nitrogen losses below 20 kilograms per hectare per year.

Switching of surface water takes and hydraulically connected groundwater takes to deep groundwater is enabled. No overall increases in takes will be allowed and water surrendered must be left in the river.