



**KELLOGG**  
RURAL LEADERSHIP  
PROGRAMME



## Connection

*What are the Social and Cultural Outcomes of Peri-Urban  
Catchments?*

Kellogg Rural Leadership Programme

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## Forward

My three-year-old son loves ducks. When I take him on the farm with me, he can point out what breed a duck is and if they are a drake or a hen. He knows all their favourite hiding places and what time of day they are most active. He is growing up immersed in a world of nature, and it is for this reason that I choose to be a farmer. The strong bond I have to the land unintentionally lead me to the foundation of this study, which is, our connection to nature and each other in Aotearoa New Zealand.

This research started with asking a good friend, what do we need to know about catchment groups? She responded, "What I would like to know is how we can truly collaborate at a catchment level to achieve these environmental outcomes".

To collaborate effectively, we need to align ourselves to a common purpose or outcomes. New Zealand society has seen a heightened focus on ecological outcomes. My question is; What is in it for the people? What are the social outcomes of environmental initiatives?

Thankyou for taking the time to read this report.

## Executive Summary

This research explores the value of connection to nature and each other. It explores that state of our connection and contrasts connection with rural disconnect (often referred to as the Urban-Rural Divide).

Peri-urban catchments are catchments that pass through or border an urban centre. This report identifies these catchments as having an opportunity to connect a significant amount of people to each other and nature.

The report starts with a literature review of connection in New Zealand. The study looks at two aspects of connection; the benefits of connection and the current state of connection in New Zealand.

The literature review supports that a heightened connection to nature, food, and each other has positive outcomes for wellbeing.

The literature review shows that our current level of connection is difficult to determine. The definition of nature is an individual perception, and this adds another element to the understanding of connection to nature. It can be influenced by a multitude of aspects, the most significant being childhood experiences in nature.

To understand how these learnings can be applied in a peri-urban environment, three case studies have been observed. The case studies were:

- Volcano to Sea Project (Hawick, Auckland)
- Mangakotukutuku Stream Care Group (Peacocke, Hamilton)
- Common Unity Project Aotearoa (Lower Hutt, Wellington)

**Empowering and educating a community through action was a significant theme.** When people take action for something they care about, it can be powerful for wellbeing. It can also form strong relationships with others taking action. The case studies indicated that the care for nature, food and each other is a substantial cause to bring people together.

It is clear that the Primary Sector Council's vision, 'Taiao ora Tangata ora' aligns and flows through all three of these projects/groups. There is an understanding that for people to be healthy, our natural world needs to be healthy. That our natural world includes nature, food production and ourselves, that we are interconnected with our natural world, this is Te Taiao.

By comparing the themes from both the literature review and the case studies, Peri-urban catchments can impact social and cultural outcomes in two ways:

1. By bringing people together to action environmental initiatives that strengthen our connection with nature, food production, and each other.

In the peri-urban space, we can take the opportunity to connect rural and urban people. Farmland in the peri-urban space has significant opportunity for ecological initiatives, and we can allow our communities to take action to enhance these. By doing this, we can expose people to food production.

2. Establishing biodiversity in peri-urban catchments so that future communities that may live there live entwined with nature and food production.

There is considerable work happening in urban, peri-urban, and rural landscapes to enhance biodiversity. In the peri-urban space, there is an opportunity to get ahead of urban development. Rather than retrospectively restore nature, nature can be established and entwined with urban living. Urban food production needs to part of this planning. Connection with nature and food production in our everyday lives will enhance our wellbeing.

This research has led to the conclusions;

- True collaboration is an outcome of connection.
- Social outcomes are as significant as ecological outcomes.

To ensure social and cultural outcomes in peri-urban communities are positive, I recommend the community groups:

**1. Embrace the principles of Te Taiao.**

More specifically, community groups vision should incorporate connection to one another and nature. Community groups should identify cultural and natural significance within a catchment. These should be celebrated, restored/protected and used as a cause to bring communities together. Community groups membership should not be limited to a geographical area. Any person or organisation which shares their cause and values should be embraced. This is especially significant in peri-urban spaces. Consider nature to be diverse and embrace food production and consumption as part of nature.

- 2. Involve youth in action and education.**
- 3. Engage with all community, including local and central government and NGOs.**
- 4. Be opened minded and be vulnerable.**

To ensure social and cultural outcomes in peri-urban communities are positive, I recommend the City planners and landowners:

**5. Plan long term to establish biodiversity ahead of urban development.**

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## 1.0 Introduction

All over New Zealand there has been a surge in the formation of catchment groups. This is driven by a heightened awareness of ecological outcomes of human interaction with our natural resource.

In the science world the link between our interaction with nature and our wellbeing is well established. As a farmer I am completely immersed in nature. The health of the natural resource I farm goes hand in hand with the prosperity of my family and my community. As a father I feel truly blessed that I can raise children in this immersion.

Rural and urban connection can be improved. The Rural disconnect in New Zealand is real. This is not a divide of the urban and rural people's opinion of each other. It is a geographical separation that has led to a lack of understanding of food production and the complex issues that go with it.

The separation does not just impact the rural communities, it also means that there is a geographical separation of the urban population with New Zealand's rich and vast natural estate. Eighty-six percent of all people in New Zealand live in urban areas which are becoming denser every year (Statistics NZ, 2020).

Peri-urban catchments are the interface between urban and rural land uses. In a peri-urban catchment you can find commercial farmland, industry, tributaries and ecological sites that have (or have potential to have) significant bio diversity, and a significant population of people. Put all these aspects together and we have a real opportunity to help connect people to nature, connect people to food, and connect people to people.

## 2.0 Purpose

This report explores how catchment groups can support social and cultural outcomes in peri-urban environments. Early research identified that the social opportunities would come from involvement with a catchment group, and the potential biodiversity and ecosystem services from a restored catchment. With this in mind, the objectives of this report are to:

1. Understand human connection to the natural world and the benefits that can bring.
2. Understand human connection to food and the benefits that it can bring.
3. Understand communities and our connections within them.
4. Understand peri-urban catchment's role in strengthening these connections.

In short, this research is about connection. Connection to nature, connection to food, and connection to each other.



### 3.0 Methodology

A literature review on the impacts of connection with nature, food and each other is the first part of the study. Under the subject of connection but not part of the review, it was necessary to discuss the impact of the rural disconnect for rural communities. Part of the literature review includes a discussion with a group of 21 farmers. They are referred to as the farmer panel.

Three case studies were explored and contrasted. Two are examples of urban community groups, and the third case study is an established peri-urban catchment group. I am a farmer, and the urban case studies helped remove my personal bias as well as expand my thought horizon. Themes and ideas were evaluated and contrasted.

Comparing themes ideas from both the literature review and the case studies form the foundation of the conclusions and recommendations.

This report is supported by five structured interviews. They were influential to the direction and findings of this report.

## 4.0 Definitions

### Catchment

According to the Ministry for the Environment, a catchment is an area of land where water collects when it rains'.

Most describe a catchment as a defined area, with all the water from the area draining to the same place. However, some water may filter through the ground to aquifers. It is not just water that a catchment collects; it can be human effluent, farm effluent, and industrial runoff.

### Catchment Community Group

For the purposes of this report we use the Landcare Trust definition, that describes a catchment group as a group of people, who identify within a geographical area, usually based on a river or lake catchment, working together to take action towards a common vision.

### Community

Once defined as a geographical place, or a defined area, a modern understanding leans towards a group of people that come together for a common cause. The defined area is not as relevant as it has been previously as we can freely travel long distances. Social media also enables people with a common cause to come together from across the world.

### Peri-urban

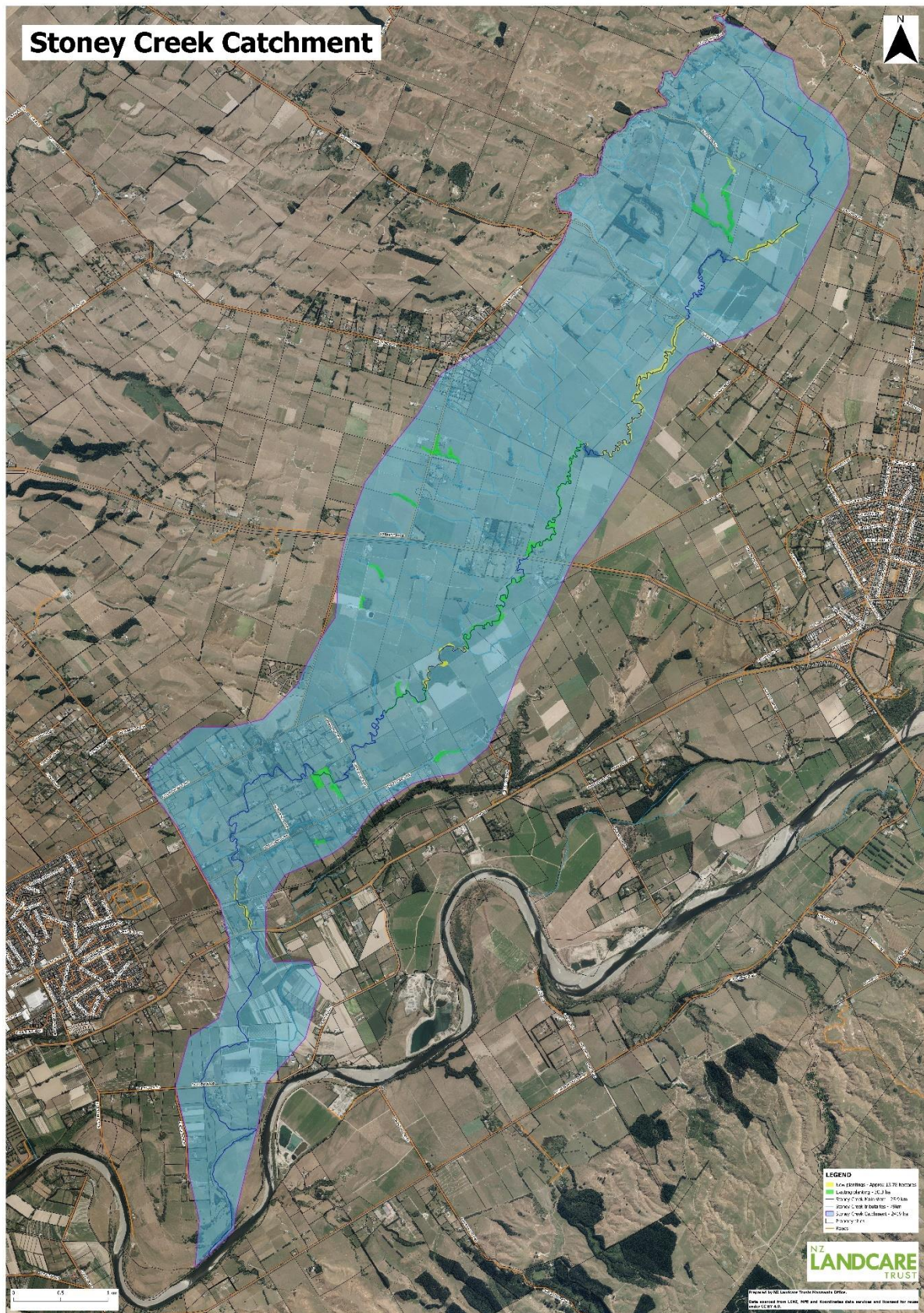
Peri-urban is often referred to as rural-urban and is the interface between town and country. In 2006 Statistics NZ defined peri-urban areas as "rural areas with high urban influence". Statistics NZ revealed through the 2001 Census that 2.6% of New Zealand's population lived in these areas and the total area that is defined as "rural areas with high urban influence was 2.8%". It also stated that the population in these areas is projected to grow faster than the national average.

This interface between town and rural is a rapidly changing environment. There are new townhouse developments, larger lifestyle subdivisions, industry and farmland (especially horticulture) all within close proximity to urban areas. The boundary of the town is constantly shifting so often a rural-urban zone is consistently shifting.

Shown in image 1, the Stoney Creek Catchment sits between Palmerston North, Ashhurst and Bunnythorpe. It incorporates lifestyle properties, which are houses with a small area of land (usually four hectares or less) and it has extensive and intensive sheep and beef, dairy, horticulture and arable farming operations.



### Image 1: Stoney Creek Catchment





Source: NZ Landcare Trust, 2019

### Primary Sector Council

The Primary Council was established in April 2018 by the Minister of Agriculture and was active for two years. (Ministry for Primary Industries, 2020)

This group of agribusiness leaders aimed to help the primary sector get more value from its work by:

- Providing strategic advice to the government on issues, opportunities and challenges facing the primary industries
- Developing a sector-wide vision
- Working with each sector to develop individual strategic plans

(Ministry for Primary industries, 2020)

The group established a vision for the food and fibre sector called 'Fit for a better world'. This vision embraces the Maori concept of 'Te Taiao, ' which is discussed further in this report.

## 5.0 Literature Review: Connection in New Zealand.

### 5.1 Benefits of Connecting with Nature

Biophilia is the idea that humans have a natural desire to seek nature, which was hypothesised by Kellert and Wilson in 1993. It explains the human desire to relate and connect to the natural environment (Uhlmann, 2018). The hypothesis argues that because we once co-existed with nature and relied on it for survival, it is part of our ancestral identity. Therefore, most people are biologically driven to seek out nature for fulfilment and survival (Uhlmann, 2018).

The benefits of interacting with nature have been researched widely. In the paper '*What are the benefits of interacting with nature*' from Keniger (2013) fifty-seven papers reviewed the subject from predominantly western societies. The study classifies the benefits of interacting with nature as follows:

- Psychological wellbeing- positive effect on mental processes.

Pretty (2005) compared the emotional responses of participants exposed to a sequence of urban and natural landscape images whilst running on a treadmill. Mood and self-esteem both improved with exposure to natural images (Keniger, 2013).

- Cognitive-Positive effect on cognitive ability or function

Berman (2008) measured the cognitive performance with a backwards digit span task, in which participants listen to a sequence of numbers and then repeat them in reverse order. The results showed that cognitive performance was greater after students had walked through a tree-lined arboretum when compared to a busy street (Keniger, 2013).

- Physiological-positive effect on physical function

Studies have shown that by merely looking at a plant, people can feel less stressed, fearful or angry, and by doing so can lower blood pressure and muscle tension (Uhlmann, 2018).

- Social- positive social effect at an individual, community or national scale

Working in the environment together as a community can help cure city ills. How often do we hear of people in cities being isolated from their community, unconnected with their neighbours? Coming together in a shared environment is a great way to meet other locals and forge friendships across cultural, age, and social gaps (NZ Landcare Trust)

- Spiritual-positive effect on individual religious pursuits or spiritual well being

Although there is limited research in this space, the available research points to an increased feeling of connectedness and a sense of purpose, inspiration and faith (Keniger, 2013).

The review concludes the evidence supports natural settings can have multiple beneficial effects. However, the report does conclude that a large part of the research is correlational. More research into what specifically is triggering these outcomes on a biological basis will help strengthen our understanding.

Maori culture has a deep respect and connection with nature. It is therefore understandable Maori have a higher proportion of the population living in small urban areas (14.7% of Maori population) and rural areas (18%), compared with the total population (10% and 16.3% respectively)' (EHINZ, 2018)

Te Taiao is an important Maori concept that embraces connection.

'Taiao speaks to the natural environment that contains and surrounds us. It encompasses all of the environment and its offspring. Because we are born of the earth and it is born of us, we have an eternal connection to Taiao- the earth, sky, air water and life that is all interdependent. Taiao is about finding our way forward by forging an interconnected relationship with that environment based on respect. That interdependency lies at the heart of our Taiao methodology.' (Primary Sector Council website, 2020)

The primary sector council has identified that we need to embrace Te Taiao to achieve their vision 'fit for a better world':

'the greatest challenge humanity faces: rapidly moving to a low carbon emissions society, restoring the health of our water, reversing the decline in biodiversity and at the same time feeding our people.' (Primary Sector Council website, 2020)

The framework to carry out this vision is called 'Taiao ora Tangata' ora, which translates to "the natural world and our people are healthy." This concept aligns with the vast amount of research linking nature to wellbeing. It also supports that people are part of nature and the health of both the people and the environment are linked and in balance.

## 5.2 The current state of our connection with nature in New Zealand

In my view, New Zealand is undoubtedly one of the most beautiful places in the world to live in. In all towns and cities, you will find fields, indigenous bush, and general green space. Many New Zealanders tend to their private gardens and look out their windows to green foliage. Outside of urban centres (in some cases bordering urban centres), New Zealand's natural estate is rich and vast.

There has been an explosion of interest in restoring streams, wetlands, estuaries and forest remnants by both urban and rural populations (Knight, 2020). The Manawatu River Cycleway is a good example, providing a resource in a natural setting for all Palmerston North residents to enjoy. Zealandia, in Wellington, is another example and its flow-on effect is that the likelihood of spotting a kaka, kereru or tieke in and around the city is three times more likely now than a decade ago (Woolf, 2019).

New Zealand is one of the most urbanised countries in the world. In 2018 eighty per cent of people in the developed world lived in urban areas (United Nations 2019 e-handbook of statistics). Here in New Zealand, it is closer to eighty-six per cent in 2019 (statistics New Zealand). A majority of homes in New Zealand, where a considerable amount of time is spent, are physically disconnected from the natural world outside urban areas.

Section 2.3 of the Palmerston North city council district plan 'the city view resource management issues for the city' identifies the need to increase housing density in order to:

- Avoid unsustainable use of land
- Provide support to local services; and
- Make use of existing infrastructure.

(Palmerston North City Council, 2018)

A consequence of increased density is smaller gardens, lawns, green space and more concrete and buildings.

In the book 'Nature and Wellbeing Aotearoa New Zealand', Dr Catherine Knight suggests that access to and enjoyment of our natural landscapes is not shared equally by all people of socioeconomic or ethnic backgrounds. (Knight, 2020) Knight also notes the absence of data and research in New Zealand. Overseas research suggests that proximity to national parks, reserves and forests means that people with higher incomes are more likely to be able to afford the travel costs and associated equipment. (Uhlmann, 2018) This as well as, increased housing density in lower decile suburbs and poorer quality greenspace could result in a socioeconomic gap. This can only identify this is an area for further research.

New Zealand farmland is a vast resource of ecosystems and biodiversity. A recent report by Beef and Lamb NZ has shown that approximately one-quarter of all New Zealand native bush is estimated to be on New Zealand farmland (Norton, 2018). A combination of public scrutiny towards farming, increased risk of liability for people's safety and a private land owner's right for privacy results in much of this native bush closed to the public.

The complexity in defining nature itself makes it even harder to determine one's connection to it. Buettel and Brook in Uhlmann (2018) argue that nature is a socio-cultural construct, and the definition is changing and evolving over time and perceived differently by individual people. The perspective of diverse people from different cultures, childhood experiences, ideology, as well as other factors can shape what people might perceive as nature.

This was apparent when discussing connection with nature with the farmer panel. The farmers were asked to scale how connected to nature they were on a scale of 1 to 10, with ten being the most connected. The ratings ranged from 6 to 10, and the differing opinions were obvious when they were asked why their ranking was such. Three farmers' remarks are mentioned below, and for the purposes of discussion, they will be labelled farmer A, B and C.

- Farmer A ranked their connection to nature as ten and made the following remarks:

"It comes from being a hunter, being out in the mountains and in the hills where 90% of us don't get to be. It also comes from our environmental initiatives on-farm, fencing and planting waterways."

Farmer A points out that they are connected to nature from being across all sorts of different landscapes in New Zealand. Also, their connection is heightened to nature when they are improving it with initiatives like fencing and planting waterways. This aligns with the Maori view of Kaitiakitanga, guardianship of the land.

- Farmer B ranked their connection to nature as a six and made the following remarks:

"The more involved with the environment and nature you are, the more you realise you have got to learn and see."

- Farmer C ranked their connection to nature as 7 and made the following remarks:

"I don't spend much time out in the bush, but standing in the middle of the paddock, in the middle of spring calving a cow while it's snowing, I feel very connected to nature."

Farmer C points out that your connection to nature also depends on the context of the situation you are in.

The farmers' perspectives support Buettel and Brook's idea of nature. It shows nature is subjective, and not just pristine native bush with a limestone track to walk on.

The most concerning part of nature disconnect is with respect to children. There is growing evidence that children are increasingly disconnected from the natural world (Department of Conservation, 2018). The evidence in New Zealand that shows a loss of connection to nature is scarce; however, there is evidence to suggest children are spending less time outdoors. A 2011 survey commissioned by 'Milo' showed that the children surveyed spend forty-seven per cent of the time outside of school on electronic devices. Another study in 2015, surveyed over 2,000 parents and found the percentage of children who were in front of a screen for more than two hours a day was eighty-three per cent on weekdays and eighty-eight per cent on weekends.

The book 'Last Child in the woods: saving our children from Nature deficit disorder', author and researcher Richard Louv highlights the growing dislocation between children and nature. Louv links trends such as childhood obesity, attention disorders and depression to nature deficit. The fundamental causes of this deficit are linked to increased use of digital technology, loss of access to natural environments in urban areas, and parents' reluctance to allow children to play outdoors because of perceived physical risk. (Knight, 2020)

Connection to nature in New Zealand is hard to determine, mainly because nature is subjective. What is clear is that any opportunity to be immersed in nature is worthwhile, especially for youth.

### 5.3 Benefits of Connection with Food.

We need food to live, and it takes up a large part of our daily routine. As well as physically sustaining us, food is an aspect of life that impacts our wellbeing. The influence of food on perceived wellbeing can be explained by its influence on different aspects on life, including body functioning and physical health, mood and emotions, as well as global life judgement and social relationships' (Ares, 2016).

Cultural values have a significant impact on food choice and connection. Research by Cantarero in 2013 found that people prefer to consume food that they associate symbolically with their own culture, as it reinforces their sense of belonging. Throughout history, food has brought people together, whether that is around the family dining table or a charity dinner at the local hall.

One way in which urban people can connect to food is by growing it. This can be as simple as a vegetable garden, or a network of urban farming. 'In developed countries, urban agriculture is often undertaken for subsistence purposes but more commonly for physiological and personal factors such as the desire for high-quality food, health, and sustainability reasons.' (Hamilton, 2014). Urban farmers see food production as a way to have direct influence over the previously mentioned reasons. Therefore, growing food for yourself or your community can also have a positive impact for a cause, which can improve one's wellbeing.

The connection with food is vital because it is a common medium across the country and world. From the consumer, through the supply chain to our farmers, everyone touches food. Food can be part of a solution to unify our society in a way that every stakeholder's role is appreciated.

### 5.4 The current state of our Connection with Food in New Zealand

New Zealand is a food-producing nation. Between urban centres, there are cattle, sheep, grain crops, orchards and many other types of food production. One would assume that the average New Zealander would have a good understanding of food production and have a strong connection to their food; however, this is not necessarily the case. In 2016 Rabobank New Zealand commissioned 'Key Research' to survey 600 New Zealand teenagers aged 16 to 18 about New Zealand's primary sector.



Eighty-one per cent of those surveyed said they know little or nothing about farming and food production. (Scoop, 2016)

Food production once brought us together as a country. Historically we all grew our own food and we were very connected to nature, success meant survival. As time went on, trade occurred at farmers markets, the consumers were still connected to the farmers and had a good understanding of how it was produced. Now produce is bought from the supermarket, people are very disconnected from the grower and from the land from where the food was grown. We have access to food from across the world which can be delivered to the front door of homes; consumers are entirely removed from the supply chain, the farmers and the land itself.

This lack of connection between consumers and the people that farm the land has reduced understanding of the rural sector.

*"We've fallen out of touch with the people who put food on our tables and the clothes on our backs and it's no surprise the urban-rural divide often feels more like a canyon than a crack to farmers" (Stuff, 2020).*

It could be easy to assume that farmers in New Zealand are strongly connected to their food. This was not necessarily the case when interviewing the farmer panel. They were asked to rank their connection to food from 1 to 10, 10 being the most connected. Their results ranged from 5 to 9. The farmer that ranked the lowest had this to say:

"I am related to milk, and I am related to meat, that would be a 10. But when it comes to coffee, bread, fruit and vegetables, it's something I just pick off the shelf at the supermarket."

Urban agriculture in New Zealand is doing its part to connect people to food. Community gardens are not a new concept in New Zealand, and they can be found in almost every part of the country, from schools to maraes, churches to council land, and proving to be a winning concept for those who aren't able to garden at home. They are also a great way to destress, eat better, get exercise, and meet others in your area (Good magazine, 2017).

There are opportunities for all New Zealanders, including farmers, to increase their connection and understanding of food.

## 5.5 Our connection with Each Other

Belonging, which is the desire to be connected to others, is an essential part of human existence (Baumeister and Leary, 1995). Baumeister and Leary (1995) formulated the belongingness hypothesis, which is that people have the drive to maintain positive and significant interpersonal relationships. It also states there are two criteria for satisfactory relationships; frequent pleasant interactions with other people; and that these interactions have a stable enduring context of concern and caring.

Thriving communities also rely on an enduring context of concern and caring. Once a community was something you were born into with a physical location, today it is more aligned with a group of people who share a certain set of norms, beliefs or culture (Fabruzzi, 2019). Modern communities support Baumeister and Leary's belongingness hypothesis.

When interviewing the farmer panel, they were asked to rank their connection to their communities from 1 to 10, and the results ranged from 4 to 9. This created a robust conversation and some of the comments that were made included;

"My involvement with my community comes down to age and stage of life. If you have your kids at school, you are in the PTA or on the [school] board, but as soon as they are gone, I feel disconnected again."

This highlights that their children and their education were the purpose that brought this person to be involved with their community.

Another person stated that a successful community group came down to values.

"I got together with a group of farmers recently to apply for some funding for a catchment group. We did not get the funding, and we have now all gone back to our different corners. We should have got together to get water from the top of the catchment to the bottom in the cleanest possible way. The money was binding us, not the quality of the water."

This farmer has clearly shown how understanding and defining the purpose of a community group is vital to the success or failure of that group.

When talking with the farmer panel, an assumption was made that I was asking them about their geographical community. It is a fair assumption to make and it supports an idea that most of us see community firstly as a defined area. For the farmer panel, when their children are involved, it is the concern for their wellbeing that defined the community. We cannot assume that people are disconnected from communities and each other because they do not identify with being connected to their geographical community, they may be connected to many other communities that they share a common interest with.

Loneliness can be defined simply as being alone and other definitions define it as a feeling of sadness caused by being alone. The latest research suggests that loneliness is largely independent of social contact; it's the absence of meaningful relationships (Hawkley 2008) which correlates strongly to the belongingness hypothesis. A survey by statistics NZ 2014 asked respondents if they had felt lonely in the past four weeks. Only fourteen per cent said they felt lonely some or all of the time.

These findings suggest that people may have a level of disconnect from their geographical communities, but are connected to other communities that share the same values or cause.

## 5.6 Summary of Literature Review.

A significant amount of research confirms the link between wellbeing and nature. Research often links back to the Biophilia hypothesis as to its foundation, which makes sense, as the hypothesis is one of a biological connection. The research has not distinguished well between different types of nature. A reason for this could be because a significant amount of the research is in the areas of social and psychological sciences. Most of the research is done in North America and Europe; the research in New Zealand is limited.

There is a general acceptance that the definition of nature is an individual perception, and this adds another element to the understanding of the connection to nature.

Although there is a lack of research in New Zealand to define our increased or decreased connection with nature we do know;

- There has been a resurgence in biodiversity in our neighbourhoods.
- Thirty per cent of New Zealand's land is national parks, reserves and forests that are open for public to access.

- New Zealand has one of most urbanised populations in the developed world of eighty-six per cent.
- Housing density in urban areas is increasing.
- Children and adults alike are spending more time indoors engaged with screen time.
- Income inequality could be restricting some peoples access to nature.

Assumptions could be made either way; what I think is important is that we can improve our wellbeing on many levels if our lives are more entwined with nature.

It is clear that our connection to food is harder to define. Price, convenience and taste are the main drivers of food choice. However, other factors such as sustainable growing practices do influence choice which suggests that there is a level of understanding and connection with our food. However, a large portion of society has little or no knowledge of how it is produced. Urban agriculture has the potential to connect people to the roots of their food but it may not translate to an understanding of commercial food production and the challenges that come with it.

Urbanisation has caused a physical disconnect between food production and food consumers. Growing food and consuming food is, by definition, an act of nature. Growing food in urban setting can foster connection to nature. However, I failed to find research that shows how understanding commercial food production may strengthen connection to nature.

Our wellbeing is influenced by our connection with other people, often the research references the belongingness hypothesis as a foundation. Engaged communities need an enduring context of care and concern. From the interviews with farmers, it is clear that the welfare of children is a context of concern we all share and drives us to be engaged.

Communities should be thought of as a group of people with a common cause or values. Often there is a cause within a geographical area such as, welfare of children at a school or water quality in a catchment. It can be easily assumed that the area is the community, but it is the cause or shared values that brings people together.

Furthermore, with the use of technology to communicate, common causes and values can be shared across the most of the developed world. This can lead to more indoor time and less engagement within your geographical community.

## 6.0 Rural Disconnect and its implications.

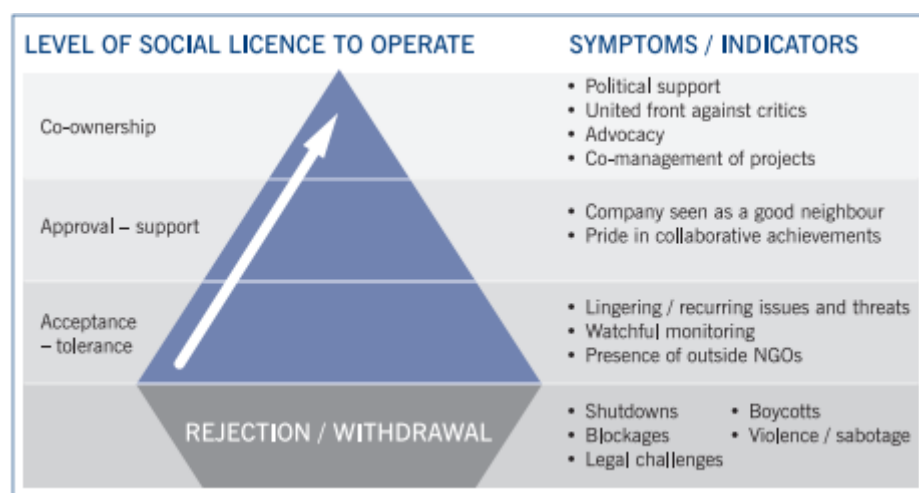
The research in the literature review focuses on the level of connection for all society. This section focuses on the implications of connection for rural people and communities.

The opinions not referenced in this section are my own. They come from my own experiences as a farmer and are not necessarily representative of the entire rural community.

### 6.1 Social License

The urban-rural divide is a term often used in New Zealand but not well defined. A UMR Research poll shows that fifty-five per cent of respondents hold a positive view of agriculture compared to twelve per cent with a negative one (Elliot, 2019). A sequent media release from the Beehive titled 'research dispels urban-rural divide talk' (Beehive,2019) leads us to think that the context of the divide is how we respect and view each other. This is not the case, the urban-rural divide is about the disconnect between farmers and the people and institutions that are commonly located in the urban centres. For this research, it will be called rural disconnect. It is real, and its implications are one of the biggest influences of our social license to operate.

**Figure One: Social Licence Model.**



Source: Jenkins 2018

Figure One, adapted from Boutiller and Thomson model, shows the three stages of achieving social license. Members of your community or society sit across different levels of this social license model.

At the bottom, we have rejection or withdrawal of social license. Digital media has enabled social license to be influenced in a fast, effective way.

'The need for a strong social license has always been there but has come to the fore quickly over the last few years as the rise of digital media has meant people can now quickly share and find information on anything at the click of a button. Sometimes the facts of this media are not always accurate, or if they are it may be taken out of context. Trust can be broken a lot faster than it is made' (Woodward, 2017).

Fish and games' dirty dairying campaign' is an example of an NGO using digital technology to promote half-truths which drag society down into the level of rejection. Because of the rural disconnect often these mistruths or challenges to farming practices go unopposed. An example of this is intensive winter grazing in southland; the practice was challenged and lead to social rejection by some members

of society. There are now prescriptive regulations that make the practice unworkable for many farmers. This will lead to economic, social, and environmental harm. If the farmers were more connected, and society understood why they winter graze on crops, maybe this would have had a more pragmatic outcome.

As mentioned, fifty-five per cent of New Zealanders have a positive view leaving forty-five per cent neutral or negative. The people surveyed most likely sit in the acceptance level of this model. There are lingering issues about animal welfare policies such as bobby calves and perceived environmental issues. These are the sorts of issues that keep this group from being in the approval level. The considerable effort by the dairy industry in environmental stewardship should go some way to lifting the percentage of positive view if it is communicated well and people are receptive. At this level of acceptance, we have a strong presence of NGO's advocating for different outcomes. Still, it appears there is little trust, little connection, and little advancement on key issues for all parties.

Moving up the triangle in figure One is approval. If we again take UMR research and roughly translate it to this model it would show there is a significant group of society that sits in the approval/support level of social license. This is when a sector becomes credible, and to be credible one must believe in your intent. An example of an initiative that can lead to this is 'Fonterra milk for schools programme' which had a goal of nutrition for children, something everyone can relate to. It was visible, and most importantly, it was a connection between the rural sector and wider society. Other examples are community planting days on farms where people observe what a farmer is doing for nature and helps create enduring credibility as well as a strong connection.

Co-ownership is the highest level of social license; this level is when the community trusts the intent, and are willing to advocate with you. The political capital is that of an entire community being trusting what you do. An example of this is Landcare Trust's work with farmers. In particular, projects where farmers show vulnerability and as a result, collaborating with the like of Landcare Trust for the co-ownership of solutions and issues alike. If a sectors intent is sincere, once a part of society is at this level, it should be achievable to keep them there. The highest level of social license comes by showing vulnerability as being vulnerable forms the deepest strongest connections with each other.

Vulnerability is the driving force of connection. It's brave. It's tender. It's impossible to connect without it' (Young, 2020).

## 6.2 Connection with the local and central government.

Without the highest level of social licence, a close connection with central government is essential. The rural sector is one of the most regulated sectors in New Zealand. Farmers need to work within the resource management Act 1991, Food Act 2014, Employment relations Act 2000, as well as a multitude of other acts and follow the regulations within them.

Farmers are geographically separated from central government which can make it challenging to share their voice. Policymakers need to hear it to understand the consequences that new regulations can have on the rural sector and communities, intentional or otherwise. An excellent example of the disconnection between rural people and the central government is the new Fresh Water Act and Regulations. In an article from *The Country* Terry Copland, CEO of Federated Farmers NZ, says

'In my opinion, the government recently passed Essential Freshwater regulations which fail on all counts. I think a closed and poorly designed process has resulted in a bad outcome.' (Copland, 2020)

The government and stakeholders failed to consult honestly and constructively before setting the new regulations. The regulations have already required amendments and large parts of the regulations present challenges that are unworkable for many farmers, and for regional councils to enforce.

Fortunately, there are also many examples when farmers have been appropriately consulted. A good example is during the consultation for the Arms Legislation Bill 2019. The government worked closely with Federated farmers allowing dispensations for pest control were brought into the amendment for farmers. Bracewell-Worral (2020) commended the government for their consultation process, "farmers are rejoicing after Labour agreed to an amendment in the firearms bill that will allow the use of restricted guns for pest control." Proving a proper consultation and process can provide good outcomes for all involved.

Any opportunity to connect food producers to wider society should be embraced.

## Case Study One. Volcano to Sea project.

This case study observes how an environment-focused community group functions in an urban setting. More specifically, how the community group connects people to nature and each other.

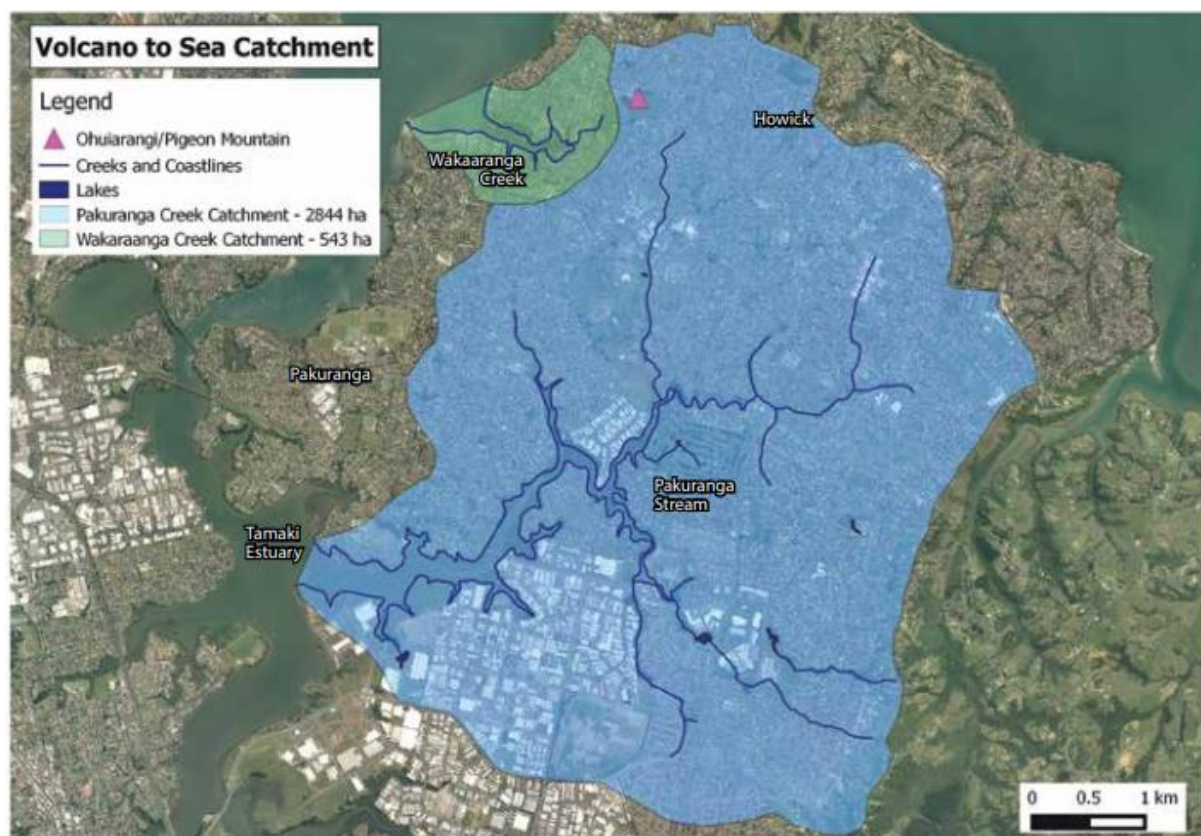
The Volcano to Sea project is described by Nature Space as an urban community catchment restoration project by NZ Landcare Trust which helps the local community improve their environment. It is based in Howick, Auckland and the catchment scale project will create an ecological corridor linking a dormant volcano called Pigeon Mountain (Huiarangi) with the sea via Wakaaranga Creek, Pakuranga Stream and the Tamaki River.

Landcare trust were involved for three years and assisted bringing a community together for a common cause.

The catchment is 3,387 hectares and it has two tributaries of the Tamaki river, Pakuranga Stream and Wakaaranga Creek which have a combined length of 16.5 kilometres. One hundred thirty thousand people live within the catchment.

The catchment was described by Auckland council in 2013 as "one of the most degraded in the region" (Community Urban Restoration and Education Guide, 2015). There were a series of issues, mostly caused by urbanisation, but it also has a rich cultural history. The volcano was once home to ancient Maori people, the Ngariiki and later by the current mana whenua, Ngaitai.

**Image 2. Volcano to Sea catchment**



Source: Landcare trust community urban restoration guide, 2015

Landcare trust consulted with key stakeholders, and the vision and objectives were determined.



Vision: To connect communities and create an ecological corridor- a pathway for nature.

Objectives:

1. Encourage stewardship of the environment by schools and the local community
2. Enhance local area biodiversity, contribute towards improved water quality in the area and embrace Iwi cultural values.
3. Support and strengthen collaboration between schools, communities, and project partners including Iwi.
4. Develop simple resources focussing on ecological restoration, catchment-based management and socio-cultural values.
5. Enable schools and community members to collect scientific data and share with the wider community.
6. Develop an educational program to facilitate learning about catchment and associated area ecology, socio-cultural values, and restoration processes.

The project brought together people from all across the community.

"What a diverse group of people they were too! Kindy kids, recent immigrants, businesses, teenagers, local Iwi, parents and grandparents- just about every demographic somehow involved," (Community Urban Restoration and Education Guide,2015)

Over the three years, the project held twenty-six tree and other planting events attended by close to 1,900 volunteers.

'Events were an opportunity for building social cohesion, bringing groups of people together who would not usually cross paths. Conversations start when working side by side, planting trees and eating together (Rankin, 2015).'

Part of the success of the group was that it was exciting, vibrant and fun. The very name of the project, 'volcano', coupled with its rich cultural past excited and enthused people from across the generations. Events were family orientated which helped engagement.

As facilitators, the Landcare Trusts project's aim was to capture the imagination of schools and community members, harnessing their enthusiasm to make positive changes in their local environment (Community Urban Restoration and Education Guide, 2015). Involving school children and teenagers was a strong focus for this project. A great initiative by the Hawick Local Board was establishing an annual memorial award for schools and students who made an outstanding contribution to nature and conservation in the catchment.

Although this project only ran for three years, its legacy will remain. Primarily by teaching and empowering the younger generation to protect and encourage biodiversity. By combining education with action-orientated activities such as planting trees, the learnings are given meaning and context. The other part of the legacy is the catchment itself, which is now much richer in biodiversity and cultural heritage. By giving someone an experience in nature as a youth, that person often develops a greater sense of environmental stewardship and community belonging (Community Urban Restoration and Education Guide, 2015)

This project has shown me that care for our natural world can connect people from all walks of life. Success comes when you engage with the youth, local Iwi, wider community with a focus of education, action and enjoyment.



**Image 3: Volunteers getting ready to plant native trees.**



Source: Landcare Trust Community urban restoration guide, 2015

## Case study Two: Common Unity Project Aotearoa.

This case study examines another urban community group. The aim of researching this group is to look at projects that are focused on social outcomes in their community. Material came from the Common Unity Project website, media releases, and an interview with the founder, Julia Milne.

The Common Unity Project is based in Lower Hutt and has a founding mission 'To Ensure Every Child Has A Village'. It was born out of concern for the level of service provision in a local school and community. It calls on a collective response from people to look within themselves and the natural resource of their community.

'In 2012, the common Unity Project Aotearoa started as a pilot project to explore the idea that, by inviting a community to partner and celebrate the strengths they had and together they might address some challenges that affect everyone' (Common Unity Project Aotearoa, 2020).

It started with the transformation of an unused school field at Epuni Primary School to an organic urban farm. The school children, along with their parents, work and care for the farm. The garden produces enough food to provide the school children with hot nutritious lunches three days a week.

From those beginnings rose a food movement through the community to address the lack of healthy affordable food in Lower Hutt. The project provides training and support to community members who wish to become farmers. These urban farmers are converting lawns and unused land into intensive, self-fertilising micro-farms. The food is distributed to school children, as well as sold wholesale through another initiative under the common unity project umbrella called the 'common grocer'.

'The soil under our feet is teeming with life and possibility and Urban Kai Farms are working to reconnect us with the abundance our soil can provide' (Common Unity Project Aotearoa, 2020).

The project has an emphasis on educating and empowering the community to take action. "There is a realisation that there is an erosion of our wellbeing in our communities. There is something that happens when you are taking action for a cause in a space you felt immobilised. [That something] is powerful for positive wellbeing," says Julia Milne (personal communication, 2020).

Julia acknowledged that a learning from the Common Unity Project was that not everybody wants to grow food. So, the project created other opportunities that brought people together. The project provided a space, which was an unused school classroom, for the community to utilise as they wished. Many initiatives have come from having get togethers in the space but the most important outcome is the social connection.

Julia highlighted the fact that when you bring a community together to take action there is a piece of work that needs to be done before you get action. When the cause is something as powerful as children, some people need time to heal and be in the right state of wellbeing to take action.

Julia talked about the other social impacts of creating a village for children. For example, when a community is activated in response to a basic need, other things can happen. "Natural flow on from growing food together resulted in a much more cohesive, connected community, and the social impacts of that have been powerful for individual wellbeing," (personal communication, 2020).

It is clear the intent of the project is pure and genuine, which has resulted in a pure and genuine response from the community.

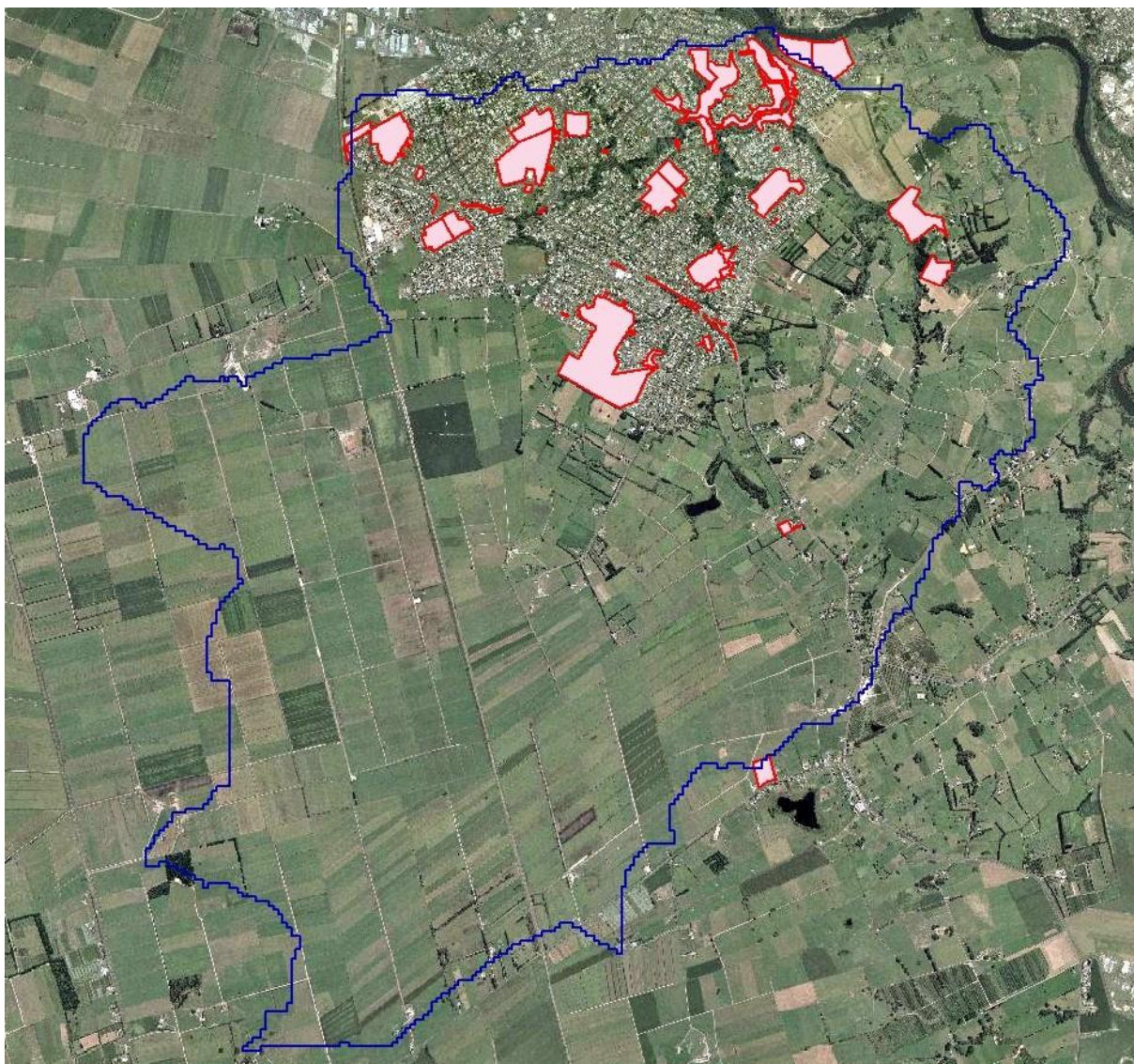


### Case Study Three: Mangakotukutuku stream care group.

The purpose of this case study was to look at a catchment group already functioning in the peri-urban space. The Mangakotukutuku Catchment starts on agricultural land south of Hamilton before entering the southern suburbs of Glenview, Bader, Melville, Sunnyhills and Fitzroy. It merges with the Waikato River opposite the Hamilton Gardens. (Mangakotukutuku stream care group)

The catchment is 2,295 hectares, approximately seventy per cent is rural and the rest urban land. Of the rural land, 298 hectares in the Peacocke area is designated for future urban development. The stream has three main tributaries that all have high sided gullies. They flow through farms, schools, council parks and public land making this a great example of a peri-urban catchment (Mangakotukutuku stream care group).

**Image 4. Outline of Mangakotukutuku Catchment**



Source: Mangakotukutuku Stream Care Group website, 2020.

Future urban development planned on farmland within the catchment will be underway in the near future. The Hamilton City Council have been planning the 'Peacocke' expansion for a considerable amount of time, and it will house 20,000 people. The planning has put considerable thought into

protecting and incorporating green space and biodiversity. It will be the city's largest investment in the environment and will go to initiatives such as fifteen hectares of gully restoration, predator control, and the creation of thirty wetlands, ensuring the residents have good access to nature by enabling access (Hamilton City Council, 2020).

The Mangakotukutuku Stream Care Group came together in 2006. It was partly driven by a survey which showed the catchment had rare and threatened native fish species that still lived in the catchment. This showed the ecological potential that could be achieved over the whole catchment and lead to their first objective, to establish native riparian plantings to improve instream habitat environments (Mangakotukutuku stream care group).

In 2007 they formed an incorporated society, and the purpose in their constitution is as follows:

- (a) To enhance the indigenous biodiversity and ecological health of the Mangakotukutuku Stream by working with the community to promote the following ecological goals.
  - i. Diverse and abundant stream, bat and birdlife
  - ii. Low weed and pest numbers
  - iii. Improved habitat diversity
  - iv. More trees alongside streams, particularly indigenous vegetation
  - v. Stable stream banks
  - vi. Less Sediment and contaminants in streams and more transparent water
  - vii. No rubbish in streams
  - viii. Sensitive upstream management
  - ix. Good access for migrating fish
  - x. Care around vulnerable habitats
- (b) To promote and engage a high level of community ownership, awareness and involvement to achieve the above purpose (Mangakotukutuku stream care group Incorporated- Rules).

To achieve this purpose, the Mangakotukutuku Stream Care Group currently operates two different models;

1. Using volunteers and working with schools to undertake plantings and maintenance on smaller high-profile sites.
2. Securing funding and contracting weed control and plantings on large scale sights which is mostly the farmland.



**Image 5. Volunteers planting native trees**



Source: Mangakotukutuku Stream Care Group website, 2020.

One challenge associated with environmental work is "burnout". This is because a lot of the action-orientated work is physical and time-consuming. But the models used by the care group work well as the community is still involved in action and education and the large scale action is getting done by the contractors, so no one is overworked.

The Mangakotukutuku Stream Care Group have a focus on engaging with youth with action and education. The Mangakotukutuku Stream Care Group also engage with the Waikato Regional Council. The group makes use of council staff for planting days by busing a group of them into the catchment. Different departments come each year; it is a great way for the council staff to connect with the community and it is also a great way for those staff to see what is happening on the ground as a result of council policy.

The group has also been involved in advocacy. They have a good track record and have the backing of the community which gives them considerable influence. They have submitted on City Council plans, roading projects, stormwater plans with respect to their catchment and the wider community.

The rural landowners within the catchment are mostly absentee owners who live out of the region. They support the group financially and support the value of the group. However, the geographical disconnect makes it hard for them to be active members. The farm managers and workers are appreciative and like what is happening but do not get involved with the group beyond their own farms.

Some land in the catchment is owned by overseas developers for urban subdivision in the Peacocke zone. In this catchment some developers are hesitant to invest in environmental initiatives until they have their subdivision resource consent. The Resource Management Act is outcomes based. Some developers consider being able to show environmental initiatives to mitigate urbanisation outcomes will help gain consent. This is currently stopping native planting in some parts of the catchment prior to the consent being granted.

This catchment group is successful in many ways. It has planted over 60,000 native plants and by doing so has protected and created freshwater systems unique to New Zealand. It has established biodiverse spaces for future Hamiltonians to live and it has brought people together across the community. It has built a platform on which to advocate and educate for nature.

## 7.0 Common Themes from Case Studies

### Purpose of the community group is crucial to connection

The more people that align with the purpose, the more people will engage with the community group. Interestingly, the Volcano to Sea vision included connecting people which resulted in a focus of highlighting/promoting the cause to the community. Nature and ecology were strong enough causes to bring people together for both Volcano to Sea and the Mangakotukutuku Stream Care Group. However it is still a relatively small proportion of the community. In the case of the Common Unity Project Aotearoa, the cause of children's wellbeing has brought a significant amount of the community together.

### The success of the project/groups is underpinned by skilled, energetic and passionate people

Success in this context means the outcomes of the project/group as well as the level of community engagement. The leaders of each project had/have a passion for the cause. Success is driven further when the passion is passed on or shared by others in the groups. Certain skills that are necessary to have within these groups are; extension, education, funding knowledge, technical knowledge, administration, and coordination.

### Youth and education

The Common Unity Project and Volcano to Sea project had strong objectives of empowering and educating the youth in their communities. This is powerful as it means the vision of the projects endure as the youth grow.

### Connection to nature and food

The amount of participation in the Volcano to Sea project and the Mangakotukutuku Stream Care Group shows that people care and are connected to nature. The Common Unity Project Aotearoa shows that by growing food in an urban environment will bring nature into back yards. The project also shows how growing food can influence the cohesiveness of a community.

### Action

Action in itself results in a positive effect on wellbeing. The ability to make a change for something people believe in is incredibly powerful for satisfaction and wellbeing. Action together as a group is a brilliant way to connect people who may not normally associate with each other. Action combined with education ensures that lessons have context and will endure.

### Regional Councils, regulation

Regional and City Councils supported Volcano to Sea Project and are actively supporting the Mangakotukutuku Stream Care Group. With respect to the Mangakotukutuku Stream Care Catchment it is clear to see good environment planning within the Peacocke planned urban development zone. However, the consent process is slowing down ecological initiatives in some cases. This is out of the scope of this research and is an area for further research in the peri-urban space.

### Connection between urban and rural communities

The Mangakotukutuku Stream Care Group raised some good perspectives around foreign ownership and absentee owners of farmland in that particular catchment. This presents challenges with farmer



engagement, however, it is an example of how people work can together outside of a geographical area.

#### Cultural aspect

It is clear the Primary Sector Councils' vision, 'Taiao ora Tangata ora' aligns and flows through all three of these projects/groups. There is an understanding that for people to be healthy, our natural world needs to be healthy. Our natural world includes nature, food and ourselves, and we are interconnected with our natural world, this is Te Taiao.

#### A community has a spectrum of connection

Every catchment is different, every person is different, and acting can be different. In the Mangakotukutuku Stream Care Group it showed people can contribute in different ways. Some examples are; absentee owners giving significant financial contributions, others contribute by hands-on work, and other roles included co-ordinating school children.

The level of interest and connection can vary between people, and also within a person's life, these groups accepted this and allowed people to come and go. This is powerful and results in a far wider, lasting connection.

## 8.0 Conclusion

The study shows peri-urban catchments provide opportunities in two ways.

### 1. Action in catchment groups

This includes bringing people together to action environmental initiatives that strengthen our connection with nature, food production, and each other. It is shown in the case studies that the care for nature, food and each other is a substantial cause to bring people together to form a community. Contributing to a cause felt strongly about, through action, can help wellbeing significantly. Through action, groups can also create connections with one another.

In the peri-urban space, groups can take the opportunity to connect rural and urban people. Farmland in the peri-urban space has significant opportunity for biodiversity, and groups can allow our communities to take action to enhance these. By doing this, groups can expose people to food production.

Farming receives a significant amount of scrutiny. This makes it challenging for some to give farmland access to the public. However, by doing this, by showing vulnerability, we in the rural sector can form significant connections within our communities. This can be part of the solution to break down the rural disconnect.

The vision and mission of a catchment group should include connection as well ecological outcomes. From this report, it is clear to see social outcomes can be as significant as ecological outcomes. These are interlinked, and this is why it should be a high level of focus.

### 2. Establishing biodiversity

This includes establishing biodiversity in peri-urban environments so that future communities that may live there, live in a way that is entwined with nature and food production. There is considerable work happening in urban, peri-urban, and rural landscapes to enhance biodiversity. Our access to nature has never been better. In the peri-urban space, there is an opportunity to get ahead of urban development, rather the retrospectively restore nature; nature can be established and entwined with urban living. Urban food production needs to part of this planning, and the connection with nature and food production in our everyday lives will enhance our wellbeing.

This research has led to the conclusions;

- True collaboration is an outcome of connection.
- Social outcomes are as significant as ecological outcomes.

**Embracing peri-urban catchment groups can be part of the application of Te Taiaio. Embracing Te Taiaio will result in positive social, cultural and ecological outcomes in peri-urban catchments. Everything is connected.**

## 9.0 Recommendations

To ensure social and cultural outcomes in peri-urban communities are positive, I recommend the community groups:

**6. Embrace the principles of Te Taiao.**

More specifically, community groups vision should incorporate connection to one another and nature. Community groups should identify cultural and natural significance within a catchment. These should be celebrated, restored/protected and used as a cause to bring communities together. Community groups membership should not be limited to a geographical area. Any person or organisation which shares their cause and values should be embraced. This is especially significant in peri-urban spaces. Consider nature to be diverse and embrace food production and consumption as part of nature.

**7. Involve youth in action and education.**

**8. Engage with all community including local and central government and NGOs.**

**9. Be opened minded and be vulnerable.**

To ensure social and cultural outcomes in peri-urban communities are positive, I recommend the **City** planners and landowners:

**10. Plan long term to establish biodiversity ahead of urban development.**

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