

Identifying Resource Management Conflicts: Stakeholder Study Regarding Flood Protection in Wairarapa Moana



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Identifying Resource Management Conflicts:

Stakeholder Study Regarding Flood Protection in Wairarapa Moana

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Abstract

This project aided the Greater Wellington Regional Council (GWRC) in gathering the opinions of stakeholders in regards to two flood protection methods in the Lower Wairarapa Valley of New Zealand: the Geoffrey Blundell Barrage Gates and the Ruamahanga River Cutoff. These methods regulate water levels in Lake Wairarapa. The team conducted 25 interviews with flood protection managers, farmers that live in the valley, and members of Ngāti Kahungunu, a Māori iwi (tribe). Our analysis found that fish passage through the gates, lake water levels, and whether the GWRC incorporated stakeholder opinions fairly were areas of concern to the stakeholder groups. This information will help to facilitate further communication between the stakeholder groups and the GWRC.

Executive Summary

This project evaluated the various views on the management of the Geoffrey Blundell Barrage Gates and the Ruamahanga River Cutoff, two flood protection methods implemented in Wairarapa Moana. Located on the southeast section of New Zealand's north island, Wairarapa Moana consists of Lake Wairarapa, Lake Onoke, the surrounding wetlands, and the Ruamahanga River as shown in Figure 0.1. The team focused on gathering the viewpoints of three main stakeholder groups, the managers of the Lower Wairarapa Valley Development Scheme, the farmers affected by the scheme, and one tribe of New Zealand's indigenous people (Māori), Ngāti Kahungunu. This report documents the opinions and views of these stakeholder groups.

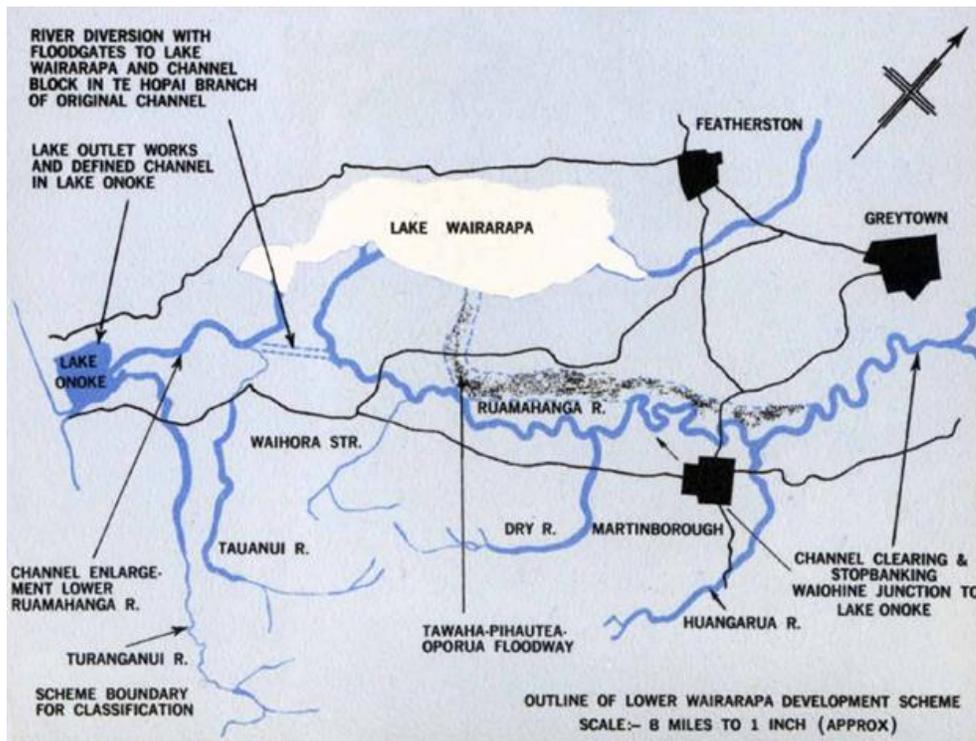


FIGURE 0.1 MAP OF THE LOWER WAIRARAPA VALLEY DEVELOPMENT SCHEME, [PHOTOGRAPH GWRC, N.D.]

The Lower Wairarapa Valley, made up of flat plains, is often subject to heavy rain which has led to a long history of flooding. In 1983, in order to reduce flooding, the Greater Wellington Regional Council constructed the Lower Wairarapa Valley Development Scheme. The scheme consists of the Geoffrey Blundell Barrage Gates, the Ruamahanga River Cutoff and various stopbanks. This study focuses on the barrage gates (shown in Figure 0.2), a dam-like structure that controls the flow of water in and out of Lake Wairarapa.



FIGURE 0.2 THE GEOFFREY BLUNDELL BARRAGE GATES, [PHOTOGRAPH GWRC, N.D.]

The gates have greatly reduced flooding in the region and have increased the land available for farming. The Lower Wairarapa Valley Development Scheme has helped to protect 31,500 hectares of land from annual flooding (Gunn, 2012), as seen in the map in Figure 0.3.

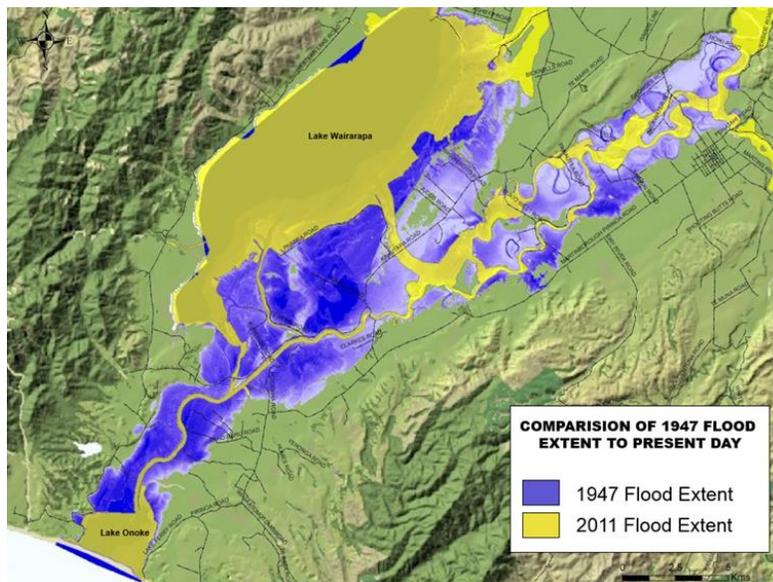


FIGURE 0.3 THE EXTENT OF FLOODING BEFORE AND AFTER THE LOWER WAIRARAPA VALLEY DEVELOPMENT SCHEME, [PHOTOGRAPH GWRC, N.D.]

Wairarapa Moana serves as a home for a variety of different species, and is one of the most biodiverse areas in the country. The Crown considers many of these species to be nationally critical, endangered, or vulnerable (Wairarapa Moana Wetlands Project, 2015d). However, the environmental impacts caused by the barrage gates and Ruamahanga River Cutoff have provided challenges for the native fish and eel populations (Wairarapa Moana Wetlands Project, 2015e). The Lower Wairarapa Valley Development Scheme has affected not only the environment, but the people surrounding Lake Wairarapa as well. The difficulties that arise when balancing efficient flood protection with environmental awareness have led to many different opinions on the management of the barrage gates.



FIGURE 0.4 SHORTFIN EELS, [PHOTOGRAPH DEPARTMENT OF CONSERVATION, N.D]

The Geoffrey Blundell Barrage Gates operate under a resource consent, a document required for any structure that alters the natural environment, which is set to expire in 2019. The consent outlines the management methods as well as any environmental and cultural impacts of the barrage gates. The opinions and views of the managers of the Lower Wairarapa Valley Development Scheme, farmers affected by the scheme, and members of Ngāti Kahungunu are essential when drafting a new resource consent. The managers of the Lower Wairarapa Valley Development Scheme control the operation of the barrage gates, while the farmers affected by the scheme are primarily dairy farmers with farmland that would previously flood before the scheme. The farming community elects representatives to an advisory committee that makes recommendations on the flood protection methods to the Lower Wairarapa Valley Development Scheme managers. The Māori are the indigenous people of New Zealand, and are members of tribes, or iwi. Ngāti Kahungunu is the largest iwi in Wairarapa Moana. The Māori also have smaller groups called hapū which affiliate with a larger iwi. The team interviewed Māori from Hapū Ngāti Moe and Hapū Ngāti Hinewaka. Our goal was to gather the opinions of the stakeholders in the Lower Wairarapa Valley in regards to the management of the Geoffrey Blundell Barrage Gates and the Ruamahanga River Cutoff.

Goals, Objectives, and Methods

The team, which consisted of four students from Worcester Polytechnic Institute, addressed the goal through four main objectives:

- To understand the current management methods of the Geoffrey Blundell Barrage Gates and Ruamahanga River Cutoff.
- To gather stakeholder views in regards to the Geoffrey Blundell Barrage Gates and Ruamahanga River Cutoff.
- To identify conflicts and opportunities regarding the current resource consent plan.
- To compile stakeholder views and report the findings to the Greater Wellington Regional Council.

To achieve objective 1 and gain perspective on the region, the Greater Wellington Regional Council took the project team on a tour of the Lower Wairarapa Valley. During the site observation the team gathered photographs of the barrage gates and the cutoff. The team also conducted background research that helped to achieve objective 1. To achieve objectives 2 through 4, the team conducted

stakeholder interviews. In order to gather the opinions of the stakeholders the project team conducted semi-structured interviews. The interviews ranged in length from 10 minutes to an hour and 10 minutes. There were some aspects of the resource management situation that the project team did not identify from initial background research. For example, several interviewees informed the team that town water discharge is a major source of pollution in the lake. However, the farmers are often the only ones blamed for the pollution levels in the lake. For this reason, semi-structured interviews were more valuable than structured interviews because they allowed new points to come up throughout the discussion. The project team brought a pre-written list of questions to the interview, while planning on having discussions that diverged from the original questions. The team coded each interview and then summarized the information into seven main categories, each with their own set of subcategories (see Figure 0.5).



FIGURE 0. 5 CODING CATEGORIES AND SUBCATEGORIES

The project team then labeled the coded information from each interview as either positive or negative where appropriate; the team marked all other instances as not applicable. The team then summarized the viewpoints into key points. Between this year and next year there will be three additional teams from Worcester Polytechnic Institute gathering the opinions of other stakeholder groups not included in this study.

Findings

After coding the qualitative data from the Ngāti Kahungunu interviews the team found that overall the **Ngāti Kahungunu interviewees are very concerned with protecting the environment**. There is a particular focus on native fish and eel populations that have been drastically decreased. Many of the fish and the eels that live in Lake Wairarapa migrate to the ocean to breed and return to the lake as adults. The barrage gates are a major barrier to this migration. The gates do contain a small tunnel called the fish passage in order to allow the migrating fish to swim through. However, the Māori feel

that the fish passage is inadequate. One of the major changes they would make to the current management of the barrage gates is to improve fish passage by keeping the gates open more often.

On the other hand, the team discovered that **farmers are more focused on ensuring that the barrage gates operate in a way that best protects their farmland from flooding**. All of the farmers the team interviewed have farmland directly impacted and protected by the scheme. In addition, the farming community is often blamed for the poor water quality in Lake Wairarapa.

Members of Ngāti Kahungunu and farmers around the lake had conflicting answers on many interview questions. However, the majority of interviewees from both stakeholder groups felt that the Greater Wellington Regional Council was not actually listening to or incorporating their opinions. **Both stakeholder groups emphasized that a major change that needs to occur is better communication between the Greater Wellington Regional Council and the stakeholder groups**. Interviews with the management of the Lower Wairarapa Valley Development Scheme were very different from interviews with the farmers and members of Ngāti Kahungunu as most of the managers believed that they were taking the stakeholder's opinions into account.

Conclusion

Both the current flood protection plan and any changes made in the future will affect these stakeholder groups. Due to this the Greater Wellington Regional Council has to take all stakeholder needs and opinions into consideration when drafting a new resource consent plan. The information gathered by this project will allow the Greater Wellington Regional Council to submit a more accurate and inclusive resource consent.

Acknowledgements

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1.0 Introduction

Lakes are a fluid environment subject to constant change due to weather, sedimentation, and human influence. They are both affected by and have an effect on the surrounding land. The surrounding land can directly change the health of a lake through runoff from the lake's watershed. For example, the phosphates and nitrates found in fertilizer can cause lake eutrophication and decrease dissolved oxygen levels within the lake. On the other hand, increased rainfall can cause lakes to overflow and flood the surrounding area. In many cases communities implement flood protection methods to decrease the effects of this kind of flooding. Lakes, in addition to being closely connected to their environment, are essential sources of drinking water, fishing, recreation, and means for transportation and as such can impact various stakeholders. These activities can have an effect on the lake environment. Fishing and farming around lakes change species' population levels as well as pollution concentrations. Due to lakes' direct impact on the surrounding community their management can often be challenging.

In the Lower Wairarapa Valley of New Zealand, tensions such as Māori land claims, flood protection methods, and farming regulations complicate resource management regarding Lake Wairarapa. Human interventions such as river diversions and barrage gates have had a significant impact on the environmental health of the region. Stakeholders who have experienced these effects include the management of the Lower Wairarapa Valley Development Scheme, the farmers surrounding Lake Wairarapa, the Ministry of Primary Industry, and the Māori (indigenous people of New Zealand) living around Lake Wairarapa. The Māori residing around the lake include three different groups: Ngāti Kahungunu, Hapū Ngāti Hinewaka, and Hapū Ngāti Moe. The Geoffrey Blundell Barrage Gates and the Ruamahanga River Cutoff are two of the major flood protection methods that have caused conflicting views since their construction in 1974. The barrage gates are flood protection barriers that maintain lake levels, while the river cutoff refers to where the Ruamahanga River used to flow before the Lower Wairarapa Valley Development Scheme diverted it. The impacts of the barrage gates and river cutoff are important to consider when gathering stakeholder opinions, since the current flood protection scheme has greatly reduced flooding in the region (Greater Wellington Regional Council, 2014). However, the barrage gates have negatively impacted the populations of indigenous fish and eels which the Māori have historically relied on for food. Conflicting opinions held by various stakeholders in the Lower Wairarapa Valley complicate the management of the barrage gates and river cutoff.

Resource consents regulate and control the management of flood protection methods in New Zealand. A resource consent needs to consider all environmental and cultural impacts of the management of a natural resource. The resource consent for the operation of the barrage gates is expiring in 2019, and the project sponsor, the Greater Wellington Regional Council (GWRC), is currently in the process of developing a new resource consent for the gates. The application process can be very long, taking several years to complete. By incorporating the opinions of all stakeholder groups, the Greater Wellington Regional Council expects that the application will face less opposition, thus increasing the chances of the resource consent approval. Therefore, it is important to incorporate all stakeholders' opinions in a resource consent application.

The goal of this project was to determine the needs and opinions of various stakeholders in regards to the current resource management of the Geoffrey Blundell Barrage Gates and the Ruamahanga River Cutoff. The project accomplished this through the use of exploratory interviews to collect the necessary information regarding the influences, opinions, and needs of the various stakeholder groups. Interviews are an integral part of the project as the stakeholders' opinions are necessary for the submission of an accurate resource consent. The project team analyzed the data collected and presented it to the project sponsor, the Greater Wellington Regional Council, on February 29th, 2016. Through conversations with many Ngāti Kahungunu members the project determined that their overall view of the barrage gates is negative and they would like to see significant changes in the gates' operation. Some of these changes include improved fish passage, higher water levels in Lake Wairarapa, and reconnection of the Ruamahanga River Cutoff. Overall the farmers and the Māori have conflicting views. Farmers tend to have a positive view of the barrage gates as the operation of the gates helps maintain their livelihood. However, both groups feel as though the GWRC does not take their opinions into account when making management decisions and would like their opinions to be better incorporated in the future. This information should help to facilitate communication between the stakeholders and the Greater Wellington Regional Council and enable the project sponsor to submit a more inclusive resource consent.

2.0 Background

The following chapter begins by describing the flood protection methods in the Lower Wairarapa Valley and their environmental impacts. The chapter then looks into the different ways that the various flood protection methods affect specific stakeholder groups in the region. Lastly the chapter concludes with some of the politics regarding resource management in the Lower Wairarapa Valley.

2.1 Resource Management Conflicts around the Lower Wairarapa Valley

Wairarapa Moana in te reo Māori (language of the Māori) means “sea of glistening waters”. The Māori explorer Kupe gave the region its name. The Wairarapa Moana, consisting of Lake Wairarapa, the surrounding wetlands, Lake Onoke, the Ruamahanga River Cutoff, and the lower Ruamahanga River, was one of the first areas settled by the Māori in New Zealand (Masterton District History, 2015). The Ruamahanga River is the largest river in the Wairarapa Valley and used to drain into Lake Wairarapa, which leads to Lake Onoke and then out to sea. Prior to human settlement the Wairarapa Moana region was mostly forested, but more recently farmers have converted the land for agricultural purposes. This deforestation has led to increased sedimentation rates and changes in water levels.

The Lower Wairarapa Valley is very significant to many New Zealanders. For instance, the Wairarapa region is culturally important to the Māori as an area for food gathering. The region is also an important site for outdoor recreation such as hunting, fishing, and boating. Currently management of the resources in the valley is under the jurisdiction of the South Wairarapa District Council and the Greater Wellington Regional Council.

The largest areas of wetlands left in the Wellington region are within the Lake Wairarapa wetland complex. The Wetlands Action Plan estimates “that only 7 – 14% of our [NZ] original wetlands remain” (Wetlands Action Plan, 2003, page 2). Since human settlement, “53% - 60% of the wetlands in the Lower Wairarapa Valley have been lost” (Wetlands Action Plan, 2003). Due to the large expanses of wetlands and their current decline, environmentalists are eager to protect them. They are aiming to accomplish this with the RAMSAR Convention, which is an international treaty that protects wetlands all over the world. Environmentalists identified the Wairarapa Moana as a potential RAMSAR nominee in 1995 (one of 73 in New Zealand).

The Lower Wairarapa Valley Development Scheme regulates the water level in Lake Wairarapa to help protect the region from flooding and to fulfill the requirements of the National Conservation Order, which protects the habitat of wading birds. The flood protection scheme has had major impacts

on the environment in the region, including affecting fish, eel, and wading bird populations. The environmental impacts have affected not only the wildlife but also the residents living around the lake. Historically the Māori have relied on fish and eel not only for food but also as a significant element of their culture. Hence, many Māori want higher water levels and better fish passage to help sustain the fish and eel populations (Potangaroa, 2012).

The land surrounding Lake Wairarapa contains many farmlands used for dairy and agriculture. The farmers prefer lower water levels to help protect their land from the damages caused by flooding. This creates tension with the Māori who are often in favor of higher water levels to help increase the fish and eel populations. The New Zealand government is currently considering Treaty of Waitangi settlements in the Lower Wairarapa Valley, and it appears that the Crown will “re-gift” the bed of Lake Wairarapa back to the Māori. These recent agreements may give the Māori control over some of their ancestral lands.

The fact that the management of the flood protection system may be changing in the near future may be exacerbating tensions in the Lower Wairarapa Valley. The current resource consent¹ that determines the management of the flood protection scheme is set to expire in 2019. The Greater Wellington Regional Council is currently developing a new resource consent for the flood protection scheme that affects many different stakeholder groups in the Lower Wairarapa Valley. This project focused on six stakeholders in the region, which include Ngāti Kahungunu, Hapū Ngāti Hinewaka, Hapū Ngāti Moe, the management of the Lower Wairarapa Development Scheme, the farmers affected by the scheme, and the Ministry of Primary Industry. Both the current flood protection plan and any changes made in the future will affect these stakeholders. Due to this the Greater Wellington Regional Council has to take all stakeholder needs and opinions into consideration when drafting a resource consent plan.

2.2 Lower Wairarapa Valley Development Scheme

The Lower Wairarapa Valley has a long history of flooding. The community of the Lower Wairarapa Valley has tried many measures to help control flooding and protect the region’s valuable land. There are multiple flood management schemes in the valley, but the Lower Wairarapa Valley Development Scheme is by far the most influential. The Lower Wairarapa Valley Development Scheme manages flood protection in the region using many different methods. Section 2.2.2 describes these

¹ Resource consent is further defined in Section 2.5.4

various flood protection methods in detail. The flood protection scheme has affected not only the environment, but also the people surrounding Lake Wairarapa. Though the Lower Wairarapa Valley Development Scheme attempts to address the numerous opinions on flood protection and develop a compromise of the many views, the Greater Wellington Regional Council has not yet found a perfect solution.

2.2.1 History of Flood Protection in the Lower Wairarapa Valley

The Greater Wellington Regional Council developed the Lower Wairarapa Valley Development Scheme to help relieve the flooding that has always been prevalent in the Lower Wairarapa Valley. Pākehā (New Zealanders of European descent) settled the region in 1840, and set up several Wairarapa river boards in 1886 to begin addressing the flooding that had been affecting the area. The river boards introduced stopbanks, which are barriers to block and control floodwaters, and erosion protection schemes to the area to help lessen the damage caused by flooding. Though this helped increase flood protection, the region was still vulnerable to flooding and needed to find a better flood control scheme. The Wairarapa community put forth many proposals, and decided on the Lower Wairarapa Valley Development Scheme since it included many elements from the earlier proposals, including the stopbanks and flood culverts (Greater Wellington Regional Council, 2014). Figure 2.1 shows the impacts of the scheme on the region, and the extent of flooding before and after the implementation of the scheme. The next section describes the specific flood protection methods used in the Lower Wairarapa Valley Development Scheme to help protect the region from flooding.

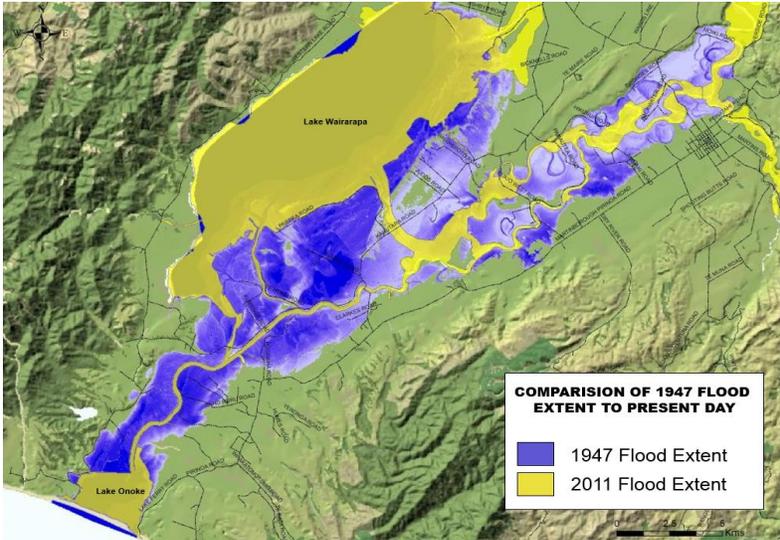


FIGURE 2.1 THE EXTENT OF FLOODING BEFORE AND AFTER THE LOWER WAIRARAPA VALLEY DEVELOPMENT SCHEME, [PHOTOGRAPH GWRC, N.D.]

2.2.2 Flood Protection Methods Utilized in the Lower Wairarapa Valley Development Scheme

The Lower Wairarapa Valley community has implemented flood protection using many different methods in the Lower Wairarapa Valley, including stopbanks, barrage gates, river diversions, and cutoffs, all with unique effects on the surrounding environment and on local residents who have differing opinions on how the Greater Wellington Regional Council should manage the flood protection methods.



FIGURE 2.2 THE GEOFFREY BLUNDELL BARRAGE GATES

The Lower Wairarapa Valley Development Scheme uses the operation of the barrage gates to actively regulate water levels and fish passage in the region. Figures 2.2 and 2.3 show the Geoffrey Blundell Barrage Gates in the Lower Wairarapa Valley. A barrage is a form of a dam that consists of multiple gates. The Greater Wellington Regional Council tele-operates the opening and closing of the barrage gates to control the water level in Lake Wairarapa and Lake Onoke. The automated operation of the barrage gates controls the water levels during normal conditions. Rather than working to contain water in a reservoir or lake, as most dams do, barrage gates instead focus on water diversion, which is essential for flood protection. The Greater Wellington Regional Council uses the barrage gates in the Lower Wairarapa Valley to try and achieve target water levels in Lake Wairarapa and Lake Onoke, which connects directly to the sea. When the water level in Lake Onoke gets too high and the sea is too rough, the Greater Wellington Regional Council opens the barrage gates to allow some of the excess water to flow into Lake Wairarapa. This helps to prevent damage to stopbanks caused by high water levels and

strong winds in Lake Onoke. The gates are also used to expedite the opening of the blocked Lake Onoke Spit by building up water pressure in Lake Wairarapa to help force the spit open.



FIGURE 2.3 THE GEOFFREY BLUNDELL BARRAGE, [PHOTOGRAPH GWRC, N.D.]

Another strategy in flood protection is to use stopbanks. Stopbanks are human-made embankments of earth along a river to help contain the water should flooding occur. Figure 2.4 shows some of the stopbanks along the Ruamahanga River. The Lower Wairarapa Valley Development Scheme maintains these stopbanks, which tend to deteriorate over time. The Greater Wellington Regional Council built many of the stopbanks along the Ruamahanga River too close to the bank in an attempt to maximize the amount of agricultural land bordering the river. Due to the close proximity to the Ruamahanga River some of these stopbanks are in danger of falling into the river. This greatly reduces the flood capacity of the river and will require a significant amount of hard work and funding to repair.



FIGURE 2.4 STOPBANKS ALONG THE RUAMAHANGA, [PHOTOGRAPH GWRC, N.D.]

River diversions redirect water away from one body of water to help ensure the river will not overflow when flooding occurs. Figure 2.5 shows the Ruamahanga River Diversion on the left of the photograph. This river diversion channels about 95% of the water from the Ruamahanga River towards the sea to help with flood protection (Gunn, 2012). The diversion helps protect against flooding by taking water directly to Lake Onoke and then out to the sea rather than feeding it into Lake Wairarapa. Prior to the diversion it would take longer for the water to reach the sea after a lot of rainfall, making flooding more likely to occur.



FIGURE 2.5 RUAMAHANGA RIVER DIVERSION AND CUTOFF, [PHOTOGRAPH GWRC, N.D.]

Figure 2.5 also shows the Ruamahanga River Cutoff on the right side of the photograph. This cutoff is the part of the Ruamahanga River that used to feed into Lake Wairarapa but is now disconnected from the Ruamahanga River due to the river diversion. The cutoff connects to Lake Wairarapa through a small stream but this connection becomes blocked during dry seasons due to low water levels. When the connection becomes blocked the cutoff disconnects from other bodies of water, often causing large amounts of algae growth and water pollution. Typically, at the mouth of the cutoff excess sediment leads to blockage, causing still water to collect between the months of January and May when there is naturally lower river flow.

The Lake Onoke Spit, an opening in a sandbar, connects Lake Onoke to the sea. When a large southerly swell comes from the sea or there is low water flow in the Ruamahanga River, the spit is often blocked. The spit normally blocks 10 to 15 times per year. When the spit becomes blocked, the sandbar traps the water in Lake Onoke and Lake Wairarapa. If there is a large amount of rainfall when the spit becomes blocked, flooding may occur. Though there are engineering solutions used in other parts of the world to help keep channels open, these options are not viable in this location due to the large coarse grains of sand along the spit (Wairarapa Moana Wetlands Project, 2015b). Contractors hired by the Greater Wellington Regional Council use excavators to open the Lake Onoke Spit, as shown in Figure 2.8, which typically requires 12 hours of machine work and then half a day of water flow from Lake Onoke.



FIGURE 2.8 OPENING OF THE LAKE ONOKE SPIT, [PHOTOGRAPH GWRC, OCTOBER 2012]

2.2.3 Lower Wairarapa Valley Flood Protection Scheme

The Lower Wairarapa Valley Development Scheme is one of the largest flood protection projects in all of New Zealand, helping to protect 31,500 hectares of land from flooding. The Greater Wellington Regional Council started developing the scheme in 1963 and completed it in 1983. The scheme encompasses sections of the Ruamahanga River, the Tauherenikau River, and Lake Wairarapa. Figure 2.9 shows a map of the Lower Wairarapa Valley flood protection methods. The flood protection system implements barrage gates, river cutoffs, stopbanks, and floodways.

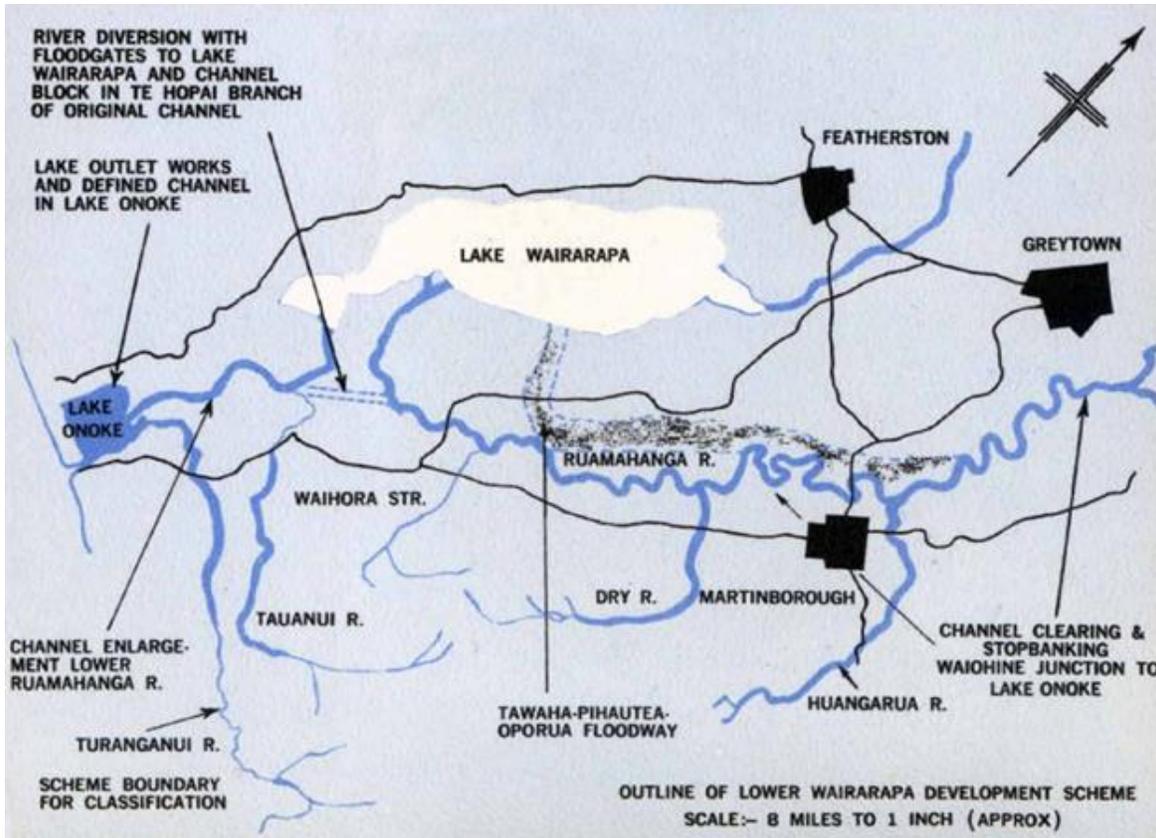


FIGURE 2.9 MAP OF THE LOWER WAIRARAPA VALLEY DEVELOPMENT SCHEME, [PHOTOGRAPH GWRC, N.D.]

Ensuring that the Lake Onoke Spit stays open is one of the most important elements of the scheme. If a large amount of rainfall occurs before the GWRC has opened the spit, then the region is more likely to flood. Unfortunately, the Greater Wellington Regional Council can only manually open the spit when the water level in Lake Onoke is high enough. After the Greater Wellington Regional Council excavates the spit, they use water pressure to help open the spit the rest of the way. Figure 2.10 shows a failed attempt at opening the Lake Onoke Spit. The regional council excavated the spit but due to the low water level in Lake Onoke the council was unable to successfully open the spit. To build up the water level in Lake Onoke to open the spit the regional council keeps the barrage gates shut. This traps the water in Lake Onoke. If a storm is approaching and the water levels are not high enough to open the spit in Lake Onoke then the Greater Wellington Regional Council opens the barrage gates. The opening of the gates allows excess water to flow to Lake Wairarapa so that the shores of Lake Onoke are not damaged by the combination of too much water and wind (Gunn 2012). The barrage gates are typically left closed to help maintain the desired water level in Lake Onoke.



FIGURE 2.10 FAILED OPENING OF THE LAKE ONOKE SPIT, [PHOTOGRAPH GWRC, 2011]

The Lower Wairarapa Valley Development Scheme, also known as the Wairarapa Development Scheme, includes 190 km of stopbanks, 112 culverts and floodgates, and a total of 12 drainage schemes (Greater Wellington Regional Council, 2014). With the Wairarapa scheme in place, approximately 95 percent of the Ruamahanga River flows directly to Lake Onoke, bypassing Lake Wairarapa. This bypass of Lake Wairarapa allows flood waters to recede very quickly following a flood event. Prior to the Lower Wairarapa Valley Development Scheme, flood waters could affect 40,000 hectares of land and water and were often present in areas for weeks. This would take a great toll on communities, causing blocked roads, downed communication lines, and stock and fence losses (Gunn, 2012). Figure 2.11 shows the effects of flooding, where flood water covers the entire State Highway.



FIGURE 2.11 FLOODING OVER STATE HIGHWAY 53, MARTINBOROUGH, 2004. [PHOTOGRAPH GWRC, 2004]

The objective of the Wairarapa Development Scheme is to keep Lake Wairarapa at the defined operating level. This level varies depending on the season: 10.15m in the summer, 10.00m in autumn and spring, and 9.95m in the winter. In 1990 the Greater Wellington Regional Council consulted numerous stakeholders affected by the lake's water level to determine the desired lake level (Ian Gunn, 1990). Attempting to manage flooding in the region encompassed by the Lower Wairarapa Valley Development Scheme has had numerous effects on the environment which the next section discusses.

2.3 Environmental Impact of the Barrage Gates and Cutoff

Maintaining biodiversity is an essential aspect of a healthy thriving ecosystem. However, increasing human influences due to farming and flood protection have made maintaining biodiversity difficult. New Zealand's Wairarapa Moana wetlands are home to a vast variety of species, many of which the Crown considers nationally critical, endangered, or vulnerable (Wairarapa Moana Wetlands Project, 2015c). The waters of Lake Wairarapa are also home to numerous small, cryptic (species that look identical but are genetically different) and nocturnal fish, many of which are endemic. Over the years, local farmers and government entities have made many changes to the land and streams surrounding Lake Wairarapa to allow for better irrigation and flood protection. These changes have helped control flood levels, but they have also disrupted the wildlife in the area and caused detrimental environmental impacts, including decreased water quality. Two of the changes that have affected the ecosystems in the area are the Geoffrey Blundell Barrage Gates and the Ruamahanga River Cutoff. The following sections describe how these flood protection methods have specifically impacted the sedimentation inside the lake as well as their influence on the animals that inhabit the area.

2.3.1 Impact on Sedimentation and Current Flow of the Lake Wairarapa

The barrage gates and river cutoff have altered the flow and sedimentation in Lake Wairarapa. Sedimentation refers to the process where soil particles settle against certain areas or barriers in the lake. Wind and water flow are the two major factors that alter the movement of sediment in the lake. As the British Crown converted more of the surrounding forest into farmland, the soil became more unstable as the tree roots were no longer there to provide structure. Rainfall eroded the loose sediment and washed it into the streams and lakes. Before the Ruamahanga River diversion, sediment would flow into Lake Wairarapa and settle. During the dry season the lake would all but dry up and the wind would remove the excess sediment. The flood protection methods, however, prevent the lake level from dropping below a certain point. This stops the natural sediment removal process. This increased

sedimentation is detrimental to the habitat and the feeding patterns of the local fish. The fishes' gills are unable to filter loose sediment in the water as the fish attempt to breathe and feed. Once the sediment drifts to the bottom of the lake, it fills up cracks and spaces between rocks that would have normally provided shelter for the native fish (McEwan & Perrie, 2012). There is little information on the lake's original sedimentation levels, however, "the rate of infilling on the eastern shore [has] increased more than tenfold" (Trodahl M, 2010, p. 2). In Figure 2.12, the eastern shore is predominantly covered in wetlands. The increase in sedimentation in the area proves to be increasingly detrimental to the surrounding flora and fauna (Wairarapa Moana Wetlands Project, 2015f).



FIGURE 2.12 MAP OF WAIRARAPA MOANA WETLANDS [WAIRARAPA MOANA WETLANDS PROJECT, 2015A]

In 1968, the Lower Wairarapa Valley Development Scheme diverted the Ruamahanga River. This allowed only 10% of its original water volume to flow through Lake Wairarapa (Pickrill, R. A., & Irwin, J. 1978). The still water in the river cutoff provides a place for algae to flourish and pollution to accumulate (McEwan & Perrie, 2012).

The effects of the barrage gates and the cutoff on water pollution in the lake are comparable to that of the New Bedford Bay Harbor Hurricane Barrier in New Bedford, Massachusetts, USA. In 1966, the Army Corps of Engineers built the Hurricane Barrier to protect the harbor from hurricane surges. It consists of doors that the New Bedford Council of Trustees can open or close depending on the situation (New Bedford Hurricane Protection Barrier, 2015). The Barrier prevents the majority of the ocean tide from circulating the water in the harbor, allowing pollution to accumulate. The concentration of polychlorinated biphenyl is at such a dangerous level that the FDA has placed a fishing ban upon any fish in the harbor. Contaminated sedimentation has also built up around the harbor, providing not only a health hazard for fish, but also altering the depth of the harbor. The major difference between the barrage gates and the hurricane barrier is the lack of indigenous fish that reside in the New Bedford Harbor (Environmental Assessment New Bedford Harbor Restoration, 2001).

2.3.2 Impact on Fish Populations

New Zealand has 50 native freshwater fish species, 25 of which live in the Wairarapa Moana (Wairarapa Moana Wetlands Project, 2015e). The Wildlife Act protects a number of mammals, reptiles, and amphibians that are indigenous to New Zealand. However, The Wildlife Act does not include freshwater fish and the Crown permits the fishing of indigenous fish despite their populations being dangerously low (McEwan & Perrie, 2012). Human influences greatly contribute to the rate at which species populations have been declining. To prevent flooding and allow for irrigation of surrounding farmlands, farmers have diverted rivers or even cut them off entirely, as in the case of the Ruamahanga River. The most influential human made change, however, is that of the Geoffrey Blundell Barrage Gates. The barrage gates create a temporary barrier for fish moving throughout Wairarapa Moana. The majority of fish in Wairarapa Moana are diadromous, meaning the “fish must migrate between freshwater environments (rivers, streams, lakes) and the sea to complete ... [their] life cycle[s]” (McEwan & Perrie, 2012, p. 176). The barrage gates and the river cutoff act as physical barriers for migratory fish, leading to an overall decline in their populations (Crisp, Bunny, & Perrie, 2014).

The Black Flounder, shown in Figure 2.13, is indigenous to New Zealand, and is the only freshwater flounder that belongs to the Pleuronectidae family. It is a diadromous fish and zoologists hypothesize that it swims out to sea for breeding, and then the juvenile fish return to the freshwater bodies. Before the Ruamahanga River Cutoff, there was a vibrant population of Black Flounders that supported a number of small fisheries, and it was common for fisherman to catch 40-60 flounders per night (McEwan & Perrie, 2012). Immediately following the construction of the river cutoff, fisherman only caught 15-25 flounders on average per night. The Wairarapa Moana Wetlands Group conducted a fish survey in 1991, but was only able to catch a total of 7 flounders across three specific fishing sites. The Wetlands Group conducted the same survey in 2010, and despite a higher survey effort, the Wetlands Group was only able to catch 8 flounders across the three sites (McEwan, A. 2010). The Wairarapa Moana Wetlands Group attributes a decline in Black Flounder populations to the prevention of migration as well as the competition provided by exotic fish.



FIGURE 2.13 AN INDIGENOUS BLACK FLOUNDER [FARELLY, 2013]

The presence of exotic and nonindigenous species has exacerbated the population decline of indigenous species. Over 100 years ago, acclimatization societies, groups that the Crown tasked with enriching the biodiversity in a region, deliberately introduced many exotic species for recreational fishing. The European perch is one such exotic fish that is likely causing the population decline of native species (McEwan, 2010). Perch are voracious carnivores, feeding almost exclusively on smaller native fish in Lake Wairarapa (McEwan & Perrie, 2012). Perch, along with the majority of other exotic fish in

the area, do not migrate. Having no natural predators in the area enables their population to thrive in Wairarapa Moana. The large population of exotic fish creates competition for food, further decreasing the population of indigenous species. Many of the indigenous species found in the Wairarapa Moana are on the endangered species list and are only found in the lake. (McEwan, 2010).

2.3.3 Impact on Wading Bird Populations

Wairarapa Moana is a popular site for migratory birds, particularly wading birds, which frequent the shores of lakes searching for food. Lake Wairarapa provides a variety of habitats for birds. Over 23% of bird species that bird surveyors have sighted in New Zealand live in the Lake Wairarapa region (Wairarapa Moana Wetlands Project, 2015c). Wairarapa Moana is one of the top fifteen sites for wading birds in the country, particularly the Pied Stilt, Banded Dotterel, and the Black-Fronted Dotterel (Robertson, & Heather, 1999). In 1855, an earthquake lifted the bed of Lake Wairarapa, effectively making the lake shallower and more attractive for wading birds (Hancox, 2005). The Greater Wellington Regional Council took into account the ideal depth for wading birds when initially setting the parameters for the optimal lake level. Between November 1984 and October 1994 the bird survey group recorded the lake level and number of wading birds. The surveyors found that they spotted a larger number of wading birds when the lake level was between 9.95m above datum and 10.3m above datum. Datum refers to a standardized point chosen as a zero point to measure lake level. In 1990 the Greater Wellington Regional Council set the water levels for the lake to 10.15m in the summer, 10.00m in autumn and spring, and 9.95m in the winter. The Greater Wellington Regional Council decided upon these levels as they promoted an optimal population of wading birds, while also suppressing weed growth and allowing maximum water storage capacity (Robertson, & Heather, 1999). The Greater Wellington Regional Council then employed John Cheyne in 2012 to carry out a series of bird surveys around the Lake and document any changes in bird population. During his survey, he rediscovered two species of birds that experts believed to be extinct in the region since 1980 (Scadden, 2012).

2.3.4 Impact on Eel Populations

New Zealand's eel population has always been of importance to the Māori. In a country that has few large animals, the eels became a staple in the Māori diet. Both the endemic Longfin Eels, and the indigenous Shortfin Eels are in Wairarapa Moana (Figure 2.14). These eels are born in the sea, then swim to the freshwater lakes where they live until they eventually migrate back to the ocean to breed and die. The operation of the barrage gates prevents the eels from traveling between the ocean and the

freshwater bodies. This not only interferes with their breeding cycle, but it also provides a barrier for the juvenile eels returning from the ocean. Eels only breed once at the end of their life cycle, meaning that every eel that fishermen catch has not been able to breed yet. The Crown gave the Māori population the right to fish in Wairarapa Moana. Due to the dwindling eel populations the local Māori established rules against catching the eels to allow their population to increase (Potangaroa, 2012).

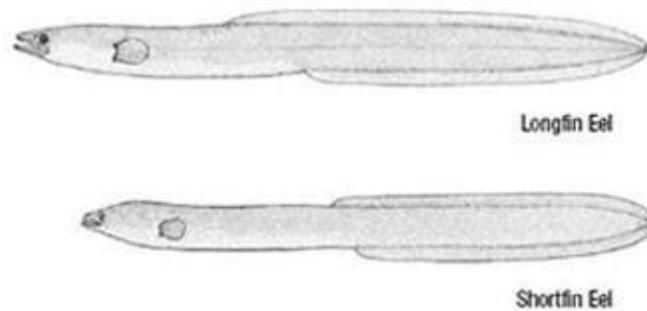


FIGURE 2.14 EELS OF NEW ZEALAND [NEW ZEALAND SHORTFIN AND LONGFIN EELS, 2012]

2.3.5 Future Impacts of Climate Change on the Wairarapa Moana

Climate change will play an increasingly important role in affecting the environment surrounding Lake Wairarapa. Though experts expect New Zealand to warm up by only two-thirds of the global average by 2050, this temperature increase will still play a major role in changing water levels and ecosystems (Boyle, 2003). The Eastern North Island from the Bay of Plenty to Wairarapa has a projected increase in mean temperature of 0.9 to 2.7 degrees Celsius for the years 2070 to 2099 (Boyle, 2003). As mean temperatures increase and average precipitation decreases, water availability will decrease. Even though climate experts predict the average amount of rainfall will decrease in the Lower Wairarapa Valley, they also believe rainfall intensity will increase (Boyle, 2003). Increases in rainfall intensity will lead to higher concentrations of sediment run-off. This increased volume of sediment loading may reduce flood storage capacities along with water quality. Not only are changing temperatures going to affect the Lake Wairarapa region, but changes in precipitation due to climate change will also greatly influence the region. The Eastern North Island from Bay of Plenty to Wairarapa has a projected decrease in precipitation of 20 percent (Bengtsson 2010). Changes in precipitation and rising sea levels will lead to erosion, and will cause ever-increasing problems as climate change increases. Experts expect erosion and coastal inundation to cause changes in sediment deposition patterns that will greatly affect the ecosystems of the Lower Wairarapa Valley.

Increased temperatures will lead to reduced frost frequency and reduced alpine snow masses. Climate change will yield a greater frequency of droughts in the Wairarapa region. All of these factors will form a new ecosystem to which existing species must adapt. Environmental changes will force species to relocate and therefore interact with new species. This will greatly change existing food chains in ecosystems and has the possibility of introducing new diseases and species to the region. The Wellington Department of Conservation predicts that plant productivity is likely to change as the ecosystem and atmosphere around them changes (McGlone, 2011). As the ecosystem evolves, exotic organisms will have a greater likelihood of surviving as they have already adapted to survive in the region. Indigenous species on the other hand are very accustomed to the specific climate of the Wairarapa Valley region, and will find it harder to adapt to a drastically changing ecosystem (McGlone, 2011).

2.4 Stakeholders

There are numerous stakeholder groups with differing opinions involved in the ownership and management of the Lake Wairarapa flood control schemes. The six main stakeholder groups this project focuses on include Ngāti Kahungunu, Hapū Ngāti Hinewaka, Hapū Ngāti Moe, the Ministry of Primary Industry, the managers of the Lower Wairarapa Valley Development Scheme, and the farmers affected by the scheme. The future use of the barrage gates and flood management scheme influence all of the stakeholder groups. The flood protection scheme directly affects the residents living in the valley, who depend on the lake and rivers for fishing and water. Consequently, the Māori are very focused on the environmental impacts of the barrage gates and cutoff, with specific attention to the changes in fish and eel populations.

2.4.1 Ngāti Kahungunu

Ngāti Kahungunu is the third largest tribal group in New Zealand. It has three main divisions: Ngāti Kahungunu ki Wairoa, Ngāti Kahungunu ki Heretaunga, and Ngāti Kahungunu ki Wairarapa. The last group resides in the southern portion of the tribe's territory and shares the title of tangata whenua (local authority) for the Wairarapa region with the people of Rangitāne (Whaanga, 2012). Figure 2.15 shows the tribal territory of Ngāti Kahungunu.

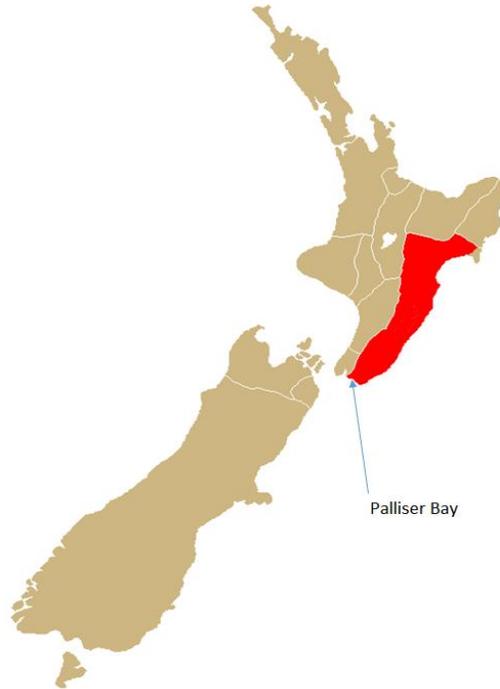


FIGURE 2.15 NGĀTI KAHUNGUNU TRIBAL TERRITORY, [WIKIPEDIA, 2012]

Ngāti Kahungunu ki Wairarapa is seeking to reclaim the land that the British Crown bought or received from them in the 1850s, which includes Wairarapa Moana and Tamaki Nui A Rua (Seventy Mile Bush). They have currently obtained an Agreement in Principle from the Waitangi Tribunal in regards to the Treaty of Waitangi, and are currently working towards a conclusion to the settlement process in the Wairarapa region (Ngāti Kahungunu ki Wairarapa - Tamaki Nui a Rua Trust, 2012c).

2.4.1.1 History of Ngāti Kahungunu

Māori have been living around the Palliser Bay region since around the 1300s. The tribes that initially settled in the region lived in relative peace. The two principal tribes, Ngāti Kahungunu and Rangitāne, have intermarried extensively. In the 1840s Europeans began to colonize the land, leasing access from the tribes who owned it (Schrader, 2012a). This led to trade and profit for the Māori, and as more colonists began to settle, the price of rent increased. The Māori were very friendly with any Pākehā, or Europeans, who were in good standing with the Māori. Many of the Pākehā rented land from the Māori to farm and settle. As the Māori rented more land to colonists, the British Crown made several attempts to purchase the land instead of renting it, but none of the tribes showed interest in selling their land. The Crown wanted the land to protect settlers from eviction, as well as for the

potential profits. The Māori saw the leases and the settlers as a strategy for furthering trade for their tribes, and had no desire to part with the land permanently (Wairarapa Moana Wetlands Project, n.d.).

Unfortunately for the Māori, the 1846 Native Land Purchase Ordinance enacted by New Zealand's government made it illegal to lease Māori lands to private citizens, and the tribes risked losing the settlers and the benefits that came with them (Taonui, 2012). The British Crown wanted to make a profit off of the settlers and therefore promised the iwi in the Wairarapa region that they would continue to receive a percentage of all profits earned from the land as well as a fishing village next to Lake Wairarapa and assistance from the British government (Wairarapa Moana Wetlands Project, n.d.). Unfortunately, instead of a fishing village the British Crown gave the Māori a land reserve located in the middle of the North Island, which was already occupied by a different iwi. As a result of these promises Ngāti Kahungunu lost more than one million acres of land to the British Crown, leaving approximately 3000-4000 acres for the Māori. After the 1931 Napier earthquake the government claimed several locations under the Public Works Act, giving no compensation to the Māori for the loss of their land (Whaanga, 2012).

Ngāti Kahungunu ki Wairarapa was very protective of Lake Wairarapa in particular, and refused to sell the lake to the British Crown. However, as time went on the iwi became concerned that the lake would be forcibly taken from them and decided that they could not let that happen. Ngāti Kahungunu ki Wairarapa therefore decided to gift Lake Wairarapa to the British Crown in 1896, because they would rather give the lake away instead of having the Crown tell them that it was no longer theirs (Schrader, 2012b).

2.4.1.2 Land Settlements in the Wairarapa Region

Several of the tribes in the Wairarapa region have begun to reclaim their lands through settlement agreements with the British Crown (Rangitāne o Wairarapa Inc., 2014). The Tamaki Nui A Rua, a section of forests located just north of Lake Wairarapa, is the current focus of Ngāti Kahungunu ki Wairarapa – Tamaki Nui a Rua Trust, which represents the interests of 27 claims that relate to Ngāti Kahungunu. These claimants recognize that different Māori tribes would share the land, and are simply seeking that the government return the land to its rightful owners (Ngāti Kahungunu ki Wairarapa - Tamaki Nui a Rua Trust, 2012c).

Another area of concern is Lake Wairarapa, as the people of Ngāti Kahungunu have traditionally relied on the fish and the eels that live in the lake as a food source. Unfortunately, the eel populations

have decreased dramatically, and the Māori are now focused on increasing eel numbers. As Potangaroa, a researcher of Wairarapa Māori history says, “At present... Wairarapa Moana is a case study on the negative impact humans have had on New Zealand’s eels.” (Potangaroa, pg. 198, 2012). Lake water quality and human-made obstacles to fish and eel migration are currently hindering eel population growth. Ngāti Kahungunu ki Wairarapa has come to a tentative agreement with the New Zealand Government. The government may give the bed of Lake Wairarapa back to Ngāti Kahungunu for no charge, essentially recognizing that the lake was a gift in the first place. It is possible that Ngāti Kahungunu would be able to further protect the fish and eels in the lake if it is back in their possession, and possibly bring the fish populations up to a sustainable level once again (Potangaroa, 2012).

2.4.2 Hapū Ngāti Hinewaka

The Ngāti Hinewaka people reside in the southern part of the Wairarapa East Coast. Figure 2.16 shows the Waitangi Tribunal Claim WAI-959 that defines boundaries to the hapū’s land. These boundaries follow the Ruamahanga River from Lake Onoke to the river’s intersection with the Huangarua River, from the Huangarua River to the Pahaoa River, and from there to the coast (Ngāti Hinewaka, n.d.). Note, a registered claim does not mean that the claim is well founded (New Zealand Ministry of Justice, n.d.). The people of Ngāti Hinewaka have a vested interest in the Wairarapa wetlands and the Ruamahanga River as a part of their land connects to the river and Wairarapa wetlands (Ngāti Hinewaka, n.d.). The water from the rivers leaving Lake Wairarapa can flood parts of their territory, as well as water from the lake itself. In addition, any pollution in the lake and surrounding rivers affects Ngāti Hinewaka.

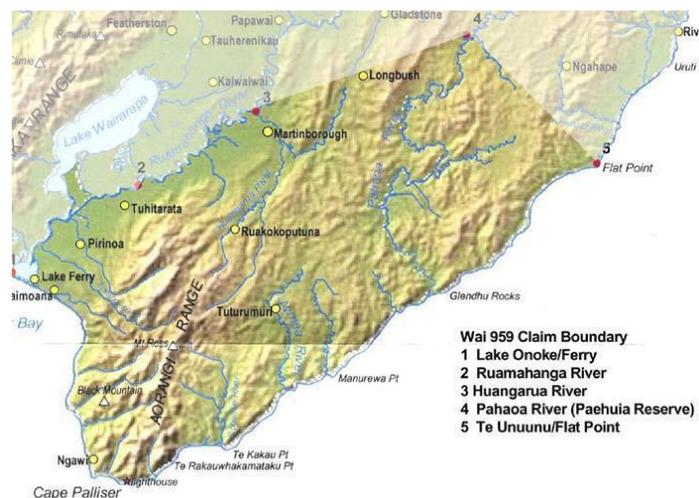


FIGURE 2.16 WAITANGI TRIBUNAL CLAIM WAI-959, [NGĀTI HINEWAKA, N.D.]

Ngāti Hinewaka’s marae is Kohunui, or Big Fog. The hapū (subtribe) traditionally descends from Hinewaka, who was a Ngāti Kahungunu migrant to the Wairarapa region. Ngāti Hinewaka also has ties to both of the iwi (tribes) serving as tangata whenua in the Wairarapa region; Ngāti Kahungunu ki Wairarapa and Rangitāne. Ngāti Hinewaka are also connected to two other tribes; Ngāti Tara and Ngāti Ira (Rangitāne o Wairarapa Inc., n.d.). As Ngāti Hinewaka shares land and ties with several other iwi, they also share the same concerns over the land. Their claim to the land south of the Ruamahanga River is sufficient reason for their concern about the welfare of the Wairarapa wetlands (Ngāti Hinewaka, n.d.). This also means that they share a vested interest with the tangata whenua over the outcomes of the Treaty of Waitangi settlement process, as its result in the Wairarapa region may lead to a return of land to the hapū (Office of Treaty Settlements, 2002).

2.4.3 Hapū Ngāti Moe

The people of Ngāti Moe, based in Greytown at Papawai Marae, are closely affiliated with Ngāti Kahungunu ki Wairarapa, and share common interests with all of the Māori that are a part of the Ngāti Kahungunu ki Wairarapa - Tamaki Nui a Rua Trust (Ngāti Kahungunu ki Wairarapa - Tamaki Nui a Rua Trust, 2012b). The trust has put forward a claim to the Wairarapa Moana region as well as the Tamaki Nui a Rua region. Figure 2.17 shows the claim boundaries.



Ngāti Kahungunu ki Wairarapa-Tamakinui a Rua Claim Boundary

NOTE: This area of interest is for the purposes of the negotiations for the settlement of the Ngāti Kahungunu ki Wairarapa-Tamaki Nui a Rua Claims and does not delineate iwi boundaries.

FIGURE 2.17 CLAIMS BOUNDARY, [NGĀTI KAHUNGUNU KI WAIRARAPA – TAMAKI NUI A RUA TRUST, 2012A]

The Ngāti Kahungunu ki Wairarapa - Tamaki Nui a Rua Trust defines this area “for the purposes of the negotiations for the settlement of the [claims] and does not delineate iwi boundaries” (Ngāti Kahungunu ki Wairarapa - Tamaki Nui a Rua Trust, 2012a). The Ngāti Kahungunu ki Wairarapa - Tamaki Nui a Rua Trust makes this distinction because they acknowledge that they will share the land with the other iwi in the Wairarapa Region.

2.4.4 Management of the Lower Wairarapa Valley Development Scheme

The Lower Wairarapa Valley Development Scheme is the largest flood protection scheme in the Lower Wairarapa Valley. A manager and two supervisors run the scheme and ensure that all of the flood protection methods are operating correctly. Landowners elect representatives in the Wairarapa region to serve on the Scheme Advisory Committee. The committee is in charge of overseeing and approving all aspects of the works program and provides a liaison between the landowners and the flood protection staff. The managers of the works program operate out of the Flood Protection Department of the Greater Wellington Regional Council. The members of the works program mainly consist of farmers and other local landowners. Some aspects that the works program manages include planting and vegetation control, stopbank maintenance and reinforcement, floodgate work, bank protection, the opening of the spit (Figure 2.18), and operation of the Barrage Gates (Wairarapa Moana Wetlands Project, 2015e). The council is in charge of both the current and future management of the scheme.



FIGURE 2.18 THE MECHANICAL OPENING OF THE LAKE ONOKE SPIT, [PHOTOGRAPH GWRC, 03/10/11]

2.4.5 Ministry of Primary Industry

The Ministry for Primary Industries in New Zealand focuses on maximizing sector productivity and export opportunities while centering on sustainable resource use for primary industries. The Ministry works to determine plans for industries to adapt to and plan for the future. The Ministry is especially concerned with the fishing and agricultural industries. Any future changes made to the flood protection plan will influence the fishing and agriculture industries. The Ministry of Primary Industry must consider 463,940 hectares of farmland in the Wellington Region and define the catch quotas for all the fisheries in New Zealand to maintain sustainable fish population levels (Ministry for Primary Industry, 2014).

2.4.6 Farmers Affected by the Lower Wairarapa Valley Development Scheme

The last stakeholder consists of the farmers surrounding Lake Wairarapa. All of these farmers are Lower Wairarapa Valley Development Scheme ratepayers. Ratepayers are landowners who benefit from the Lower Wairarapa Valley Development Scheme and pay a rate defined by the Greater Wellington Regional Council as payment for that benefit. Ratepayers provide fifty percent of the funding for the Lower Wairarapa Valley Development Scheme and the rest of the funding comes from taxpayers in the Greater Wellington Region. The farmers have a high stake in the Greater Wellington Regional Council's development of a new resource consent, because if the flood protection was to change, both their farms and their livelihoods could be greatly affected.

2.5 Politics Surrounding the Barrage Gates

The politics surrounding the barrage gates include the region's historical land claims and the Treaty of Waitangi. In addition, there is a growing desire among New Zealanders to protect the nation's wetlands through policies such as RAMSAR. The RAMSAR treaty identifies wetlands as nationally important and identifies them as sites that New Zealand's government protects. Furthermore, there is tension between the local farmers and the Māori over the land claims. All of these key political factors, which the next section describes in detail, play into the stakeholders' relationships and the regulation of the Geoffrey Blundell Barrage Gates.

2.5.1 The Treaty of Waitangi and the Land Rights of the Māori

To understand the issues surrounding the management of the Lower Wairarapa Valley Development Scheme it is necessary to understand the history of the Treaty of Waitangi and the land

rights issues that it caused for the Māori. Many of the tensions that are currently present in the Lower Wairarapa Valley stem from the mistranslation of the Treaty of Waitangi. The following section explains the history behind these tensions.

Ever since the Māori and the British Crown signed the Treaty of Waitangi in 1840, it has been an essential part of Māori operations (Network Waitangi, 2015). Before 1840, the Māori and the Pākehā lived together peacefully. The Pākehā were primarily British traders and runaway convicts who the Māori invited to live on their land. Māori customs follow the ethical principle of *Manoaki*, an obligation to care for their visitors. The Māori coupled this principle with the understanding that the British settlers would follow the Māori law of fairness (*Tikanga*) and respect the leaders of the *hapū*, known as the *rangatira*. The early settlers had a peaceful relationship with the Māori, as the settlers were well aware that their survival was dependent on this peaceful coexistence.

A mutually beneficial relationship began to grow between the Māori and the Pākehā. The Māori supplied visiting ships with fresh water, fish and meat, *kumara* (sweet potatoes), flax, and logs to build the ships' masts. The Māori wished to expand their overseas trade, and a strong relationship with the British was beneficial in achieving this goal. The Māori saw the British settlers as "Hapū hou" or a "new Hapū" with whom they wished to build an advantageous relationship (Network Waitangi, 2015). In Māori culture it was not unusual to make these types of relationships formal with a treaty. Great Britain was not the only country interested in building a relationship with New Zealand; America and France also wanted to get involved in Māori trade. For this reason, Great Britain showed interest in a treaty with the Māori, to establish itself as the primary country with whom the Māori had international links.

As the number of European settlers increased, the Māori became concerned with the growing lawlessness of many of the Pākehā. Pākehā lawlessness included murders, kidnappings, enslavements and other criminal acts. The Māori hoped that a treaty would force the Crown to take control over the Pākehā and decrease the number of incidents of these crimes. A treaty would mean confirmation of the power of the *rangatira* and an agreement that the *rangatira* would be responsible for governing the Māori and the Crown would be responsible for governing the Pākehā.

Another issue the Māori hoped the treaty would clear up was land rights. The Māori gave grants of land use, called *taku whenua*, to the European settlers. The Europeans, however, abused these rights and forcefully took land from the Māori. In 1835 *Te Wakaminega*, the "confederation of chiefs", signed the Māori declaration of Independence for New Zealand, or *He Wakaputanga o te Rangatiratanga o Nu*

Tireni in Māori. The declaration internationally established New Zealand as an independent state in which full sovereign power rested with the hapū and their representative rangatira. The British resident, James Busby, who the British Crown sent to New Zealand to keep the peace between the Pākehā and Māori, sent the declaration to Great Britain and in 1836 the British Crown recognized New Zealand's sovereign independence from Great Britain.

The Treaty of Waitangi became one of New Zealand's first founding documents. On February 6, 1840, 40 rangatira representing their hapū and Captain Hobson representing Queen Victoria signed the Treaty of Waitangi. Copies of the treaty were then taken around the country and more than 500 Māori leaders signed it (Network Waitangi, 2015). There are two versions of the treaty, one in Māori and one in English (Read the Treaty, 2015). First Captain Hobson wrote the treaty in English, then he translated it into Māori. However, there has been much controversy about differences in the two translations.

In article one of the treaty, the two translations differ in the terms used to describe the Crown's power in New Zealand. In the English text, Māori leaders gave the Queen "all the rights and powers of sovereignty over their land." In the Māori text, Māori leaders gave the Queen 'te kawanatanga katoa' or the complete government over their land (Read the Treaty, 2015). In the years following the treaty, the number of British settlers continued to rise. Once the number of Māori and Pākehā were similar, the Pākehā used violence to take land from the Māori; this period around 1858 is commonly referred to as the land wars. In addition to the land wars, the Crown also deceived the Māori to acquire more land. The Crown understood the Māori's generous gifting of land differently than the Māori did, and tricked them into signing legal documents that gave the Pākehā ownership of the land. From the Māori perspective, money that the Pākehā gave them in exchange for the land was a reciprocal gift. In 1896 Hāmuera Tamahau Mahupuku gifted the Wairarapa Moana to the Crown. The act of gifting meant that the mana, or authority, over the land still belonged to the Māori. The Crown gave the Māori two thousand pounds and promised to set aside some of the land for them. The Crown ended up giving the Māori a small land reserve (Schrader, 2012a).

The Treaty of Waitangi Act established the Waitangi Tribunal in 1975 to dispute land claims between the Māori and Pākehā (Network Waitangi, 2015). The government appoints members of the Tribunal, which does not have the power to directly enforce settlements; instead members make recommendations to parliament. Parliament must make the final decision on whether the Crown would return land and resources that the British settlers took illegally.

Treaty settlements involve three aspects: Crown apology, cultural redress and/or commercial redress. The Crown apology occurs in every settlement and is simply an apology given by a representative of the Crown to acknowledge the wrongful British acts against the Māori. Following the apology, the Tribunal will dispute what cultural and or commercial redresses the Crown will give the Māori. Cultural redress involves a resolution of the treaty that would give the Māori liberty to restore cultural aspects of the land as they feel important. For example, a cultural redress can include the re-gifting of land back to the Māori, which gives the Māori more control over the management of the land. Māori management of the land would allow them to restore the land to a state that they feel is culturally appropriate. In the case of the Wairarapa the Māori would most likely want to change the management to conditions that would increase fish populations, since fishing is a major aspect of Māori culture. However, there has yet to be a treaty settlement that resulted in a Māori group having 100% control of the management. It is often the case that the Māori and a local government organization such as the Department of Conservation (DOC) or regional council will co-manage the region. Another aspect of cultural redress involves the Crown changing the names of mountains or rivers back to their traditional Māori names. Cultural redress is often replaced with or accompanied by commercial redress. Commercial redress is when the Crown gives money to the iwi. The amount of money can never be greater than 2% of the value of what the iwi actually lost. The Crown set this standard so that each iwi would receive a similar percentage in their settlement. Similar to cultural redress the Māori can then use the funds to gain more power and decision-making abilities in the region.

The Wairarapa Moana is currently co-managed by two iwi: Ngāti Kahungunu and Rangitāne. There are tensions regarding the land settlements between the Māori groups. Controversy over which iwi has rights to the Wairarapa Moana causes these tensions. Therefore, the settlement process plays a key role in regards to resource management.

2.5.2 RAMSAR Status and International Recognition of Wetlands

The Convention on Wetlands, called the RAMSAR Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources (Gunn, 2012). Throughout the 1960s countries and non-governmental organizations concerned with the increasing loss and degradation of wetlands around the world negotiated the treaty. Australia, the Netherlands, and Iran were among the first countries to adopt the treaty in the Iranian city of Ramsar in 1971 (RAMSAR, 1971). To date approximately 170

countries have signed the treaty and registered RAMSAR sites. The convention uses a broad definition of wetlands. It includes all lakes and rivers, underground aquifers, swamps and marshes, wet grasslands, peatlands, oases, estuaries, deltas and tidal flats, mangroves and other coastal areas, coral reefs, and all human-made sites such as fish ponds, rice paddies, reservoirs and salt pans. Under the “three pillars” of the Convention, the Contracting Parties commit to:

- Work towards the wise use of all their wetlands.
- Designate suitable wetlands for the list of Wetlands of International Importance (the “RAMSAR List”) and ensure their effective management.
- Cooperate internationally on transboundary wetlands, shared wetland systems and shared species (RAMSAR, 1971).

The mission of the convention is as follows: “the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world”. In short the main drive behind the convention is sustainable use of wetlands. RAMSAR sites have to meet nine criteria to receive national importance. The nine criteria split into two major categories: sites containing representative, rare or unique wetland types, and sites that conserve biological diversity. The second major category splits further into sections pertaining to species and ecological communities, water birds, and fish (RAMSAR, 1971). Currently Wairarapa Moana fulfills seven of the nine requirements for RAMSAR status as shown in Table 2.1 below.

TABLE 2.1 EVALUATION OF THE WAIRARAPA MOANA AGAINST THE 9 RAMSAR CRITERIA [RAMSAR, 1971]

Criterion	A wetland should be considered internationally important if:	Met?
1.	It contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.	✓
2.	It supports vulnerable, endangered, or critically endangered species or threatened ecological communities.	✓
3.	It supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.	✓
4.	It supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.	✓
5.	It regularly supports 20,000 or more waterbirds.	✓
6.	It regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.	✓
7.	It supports a significant proportion of indigenous fish subspecies, species or families, life-history stages, species interactions and/or populations that are representative of wetland benefits and/or values and thereby contributes to global biological diversity.	✓
8.	It is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend.	✓
9.	It regularly supports 1% of the individuals in a population of one species or subspecies of wetland-dependant non-avian animal species.	NA

New Zealand farmers are the one of the few groups against RAMSAR status because they fear it will invoke regulation of Wairarapa Moana which will force them to change their farm operational methods.

2.5.3 Relationship between farmers and the Māori

There has been disagreement between farmers and the Māori about the appropriate water level for Lake Wairarapa. The Māori want high water for fishing while the farmers want to keep the water levels low for dry pasture and to protect the stopbanks along the shore. The Māori hunt eels in the lake but lower water levels decrease the habitat for the eels to flourish. Agriculture is also a major

contributing factor to the drainage of wetlands in Wairarapa Moana. Since European settlement of New Zealand, the Crown has drained approximately 90% of wetlands for housing, commercial development, and agricultural production. This equates to more than three million hectares of land (McLeod, 2006). Further discussion on the regulation of Lake Wairarapa's water levels will be vital in future resource management plans.

2.5.4 Resource Management Act of 1991 and the Use of Natural Resources

The Resource Management Act (RMA) of 1991 defines how local authorities manage the effects of various activities on the environment of New Zealand. The New Zealand parliament created the RMA to create one large framework for resource management in New Zealand. The RMA regulates resource consents, proposals of national significance (such as RAMSAR), local authorities and regional council plans. The main purpose of the RMA is to achieve sustainable management of all of New Zealand's natural resources (Ministry for the Environment, 2015)

Under the RMA, resource consents are often necessary for the use of natural resources. Applications for resource consent must include a detailed description of the environmental impacts of the proposal (Resource Management Act, Article 88). The resource consent submitted by the Greater Wellington Regional Council in 2019 must take into account irrigation, fish passage, and lake levels. The Greater Wellington Regional Council will evaluate these impacts against New Zealand's national environmental standards. In addition, the proposal must take into account the six matters of national importance of the RMA:

- The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development.
- The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development.
- The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna.
- The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers.
- The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.

- The protection of historic heritage from inappropriate subdivision, use, and development.
- The protection of protected customary rights (Parliamentary Counsel Office, 2015)

Since the fifth matter of national importance is the relationship of the Māori and the Māori have a strong cultural connection to Lake Wairarapa, the Māori play an important role in the renewal of resource consent. Additionally, to fully cover the environmental effects mentioned previously stakeholder views are very important to consider when submitting a resource consent.

Once complete, the applicant sends the resource consent to the consenting authorities for any necessary revisions. Consent authority refers to any council whose permission the applicant needs to carry out an activity that requires resource consent (Parliamentary Counsel Office, 2015). Since the Crown may return the Wairarapa lake bed to the Māori as described in section 2.5.1 then the Māori may become a consent authority and have more control over the resource consent process. Once the consenting authorities make revisions, a hearing will convene and various stakeholders will state their opinions. The commissioners (an independent adviser to the government on environmental issues) will make the final determination in whether the resource consent passes. Territorial authorities, such as the Greater Wellington Regional Council, are responsible for upholding the requirements for management set out by the resource consent (Parliamentary Counsel Office, 2015). The resource consent that the Greater Wellington Regional Council plans to apply for will be short term, expiring in six years. The subsequent consent application will most likely be for a longer period of 35 years.

2.5 Background Overview

The Lower Wairarapa Valley is a region that is prone to flooding. In colonial times Wairarapa Moana was almost entirely wetlands as a result of the frequent flood events. The Māori in the region relied on Lake Wairarapa for fishing and eeling. Early European settlers in the region leased land from the Māori and lived in relative peace amongst each other. However, as time went on the British Crown purchased increasing amounts land from the Māori, sometimes through questionable means. Eventually the Māori lost most of their ancestral land, including Lake Wairarapa, which they gifted to the Crown in return for a barren parcel of land in the middle of New Zealand's North Island. As the government now owned the land in the Lower Wairarapa Valley, many Europeans began to settle there. As the wetlands in the region were useless for any industry, and flooding meant that much of the land was useless for farming, flood protection became necessary. The solution that the Wairarapa

community came up with was to divert the Ruamahanga River away from Lake Wairarapa and install barrage gates and stopbanks along the river to control water levels and attempt to prevent large flood events. This protected the land from flooding, thus creating new farmland, and as a result the primary industry in the Lower Wairarapa Valley today is dairy farming. The creation of the Resource Management Act meant that the flood protection scheme needed resource consents to operate, and these resource consents control certain aspects of the Lower Wairarapa Valley Development Scheme. The resource consent for the barrage gates is up for renewal in 2019, and requires the approval of the stakeholder groups in the Lower Wairarapa Valley to pass. These stakeholder groups include Ngāti Kahungunu, Hapū Ngāti Hinewaka, and Hapū Ngāti Moe, which are three Māori stakeholder groups in the Lower Wairarapa Valley. The other three stakeholder groups include the management of the Lower Wairarapa Valley Development Scheme, the Ministry of Primary Industry and the farmers around the lake affected by the scheme. The following chapter describes the methods used by the project team to gather the opinions and needs of the stakeholder groups in the Lower Wairarapa Valley in preparation for the Greater Wellington Regional Council's resource consent application renewal in 2019.

3.0 Methodology

The goal of this project was to gather the opinions of stakeholder groups in the Lower Wairarapa Valley in regards to the management of the Geoffrey Blundell Barrage Gates and the Ruamahanga River Cutoff. The project team accomplished this through the use of exploratory interviews to gather the necessary background information regarding the influences and opinions of various stakeholder groups in the region. This information should help to facilitate communication between the stakeholders and the Greater Wellington Regional Council. To accomplish this, the project team addressed the following objectives:

- To understand the current management methods of the Geoffrey Blundell Barrage Gates and the Ruamahanga River Cutoff
- To gather stakeholder views in regards to the Geoffrey Blundell Barrage Gates and the Ruamahanga River Cutoff
- To identify conflicts and opportunities regarding the current resource consent plan
- To compile stakeholder views and report findings to the Greater Wellington Regional Council

The team used exploratory interviews to collect data from specific stakeholder groups. The team's sponsor, the Greater Wellington Regional Council, assigned the following stakeholder groups: the managers of the Lower Wairarapa Valley Development Scheme, Hapū Ngāti Hinewaka, Hapū Ngāti Moe, Ngāti Kahungunu ki Wairarapa, the farmers affected by the scheme, and the Ministry of Primary Industry. Due to Ngāti Moe and Ngāti Hinewaka's close affiliation with Ngāti Kahungunu, the project team and the sponsor decided to group the two hapū together with the larger iwi. The project team was unable to interview members of the Ministry of Primary Industry due to project time constraints. The team analyzed the data gathered from the managers of the Lower Wairarapa Valley Development Scheme, Ngāti Kahungunu (and affiliated hapū), and the farmers affected by the scheme, then compiled it into a report for the Greater Wellington Regional Council.

3.1 Flow Chart Objectives to Methods

The project team broke up the project into four main stages that they needed to complete before the team could compile a final deliverable. First the team developed a mission statement, identified objectives, developed a specific research method, and then performed data analysis. Figure 3.1 below shows this progression. The remainder of the chapter discusses these specific stages.

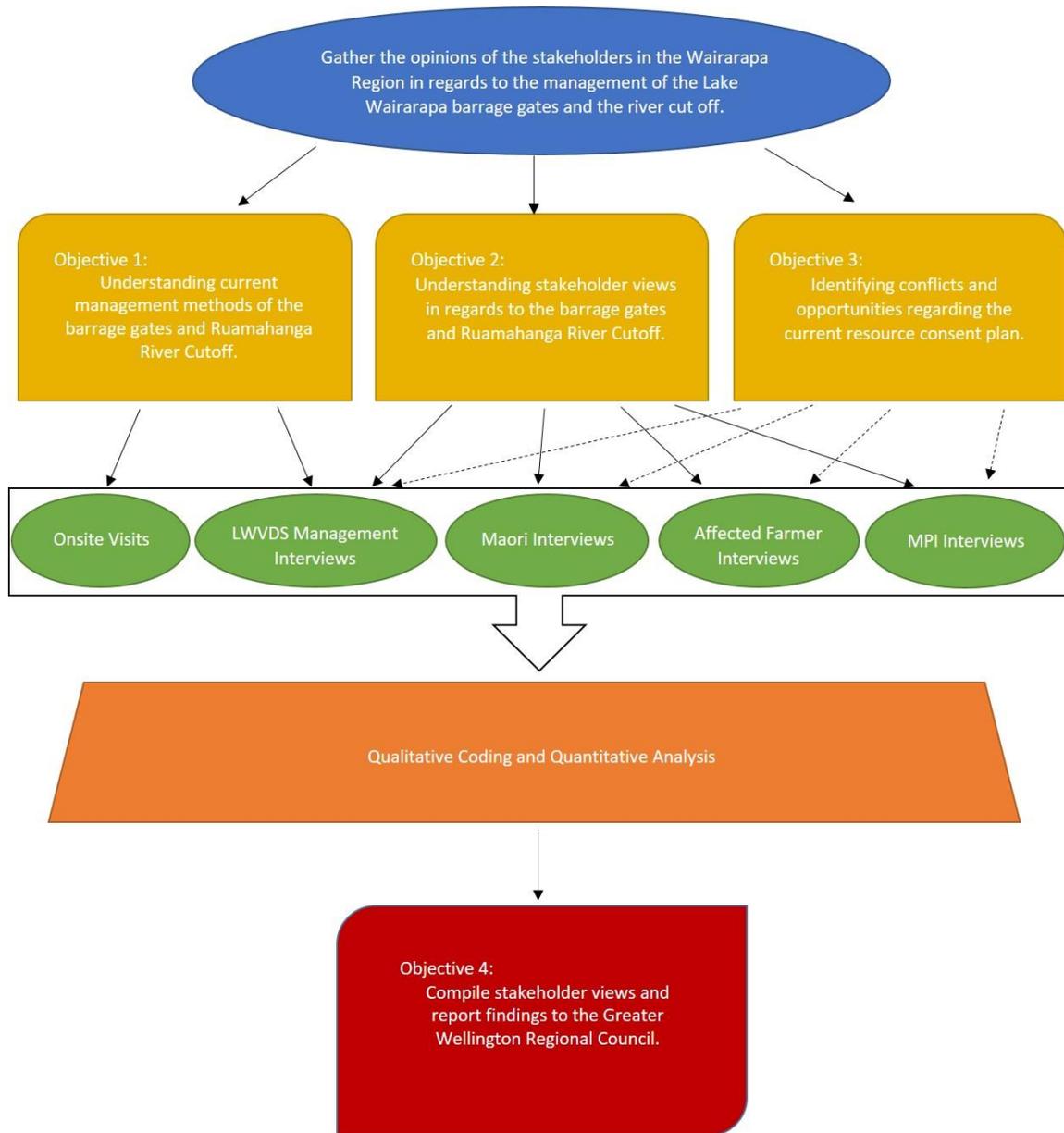


FIGURE 3.1 PROGRESSION FROM OBJECTIVES TO METHODS

3.2 Gathering the Information

The project team used background research in conjunction with on-site visits in order to gain a holistic view of the current flood protection management methods and meet Objective 1. The following subsections serve as an explanation for the project group's decision to use these specific techniques.

3.2.1 Research

The project team conducted research on the management and current operation of the barrage gates in the Lower Wairarapa Valley. The team did this to ensure that the group had at least a basic understanding of the flood protection scheme. The team also conducted research on each individual stakeholder group to ensure that interview questions were applicable and specifically catered to each stakeholder's occupation or specific interest. This allowed the project team to be more prepared when conducting interviews.

3.2.2 On-site visits

The team completed a site visit of both the Geoffrey Blundell Barrage Gates and the Ruamahanga River Cutoff. The team was able to observe the flow of water through the fish passage as well as the difference in water levels on either side of the barrage gates. At the cutoff, the team was able to observe the still water, as well as the possible recreational uses of the area. The on-site visit allowed the project team to gain a better understanding of both flood protection mechanisms and be better prepared for in-person interviews.

3.3 Semi-Structured Interviews

The project team used semi-structured interviews to gather the opinions of stakeholders and meet the three objectives. The project team decided that semi-structured interviews would be the most appropriate technique for gathering relevant information from our specific stakeholder groups. Semi-structured interviews allowed interviewees to respond to the question, but still allowed the conversations to digress. This structure also allowed the project team to skip questions if the interviewee happened to answer them in any of the previous questions. The project team believed this freedom was a valuable aspect, as it allowed interviewees to bring up points of contention that the project team may not have anticipated. The following subsections contain an overall interview

procedure as well as a detailed explanation for each question that the project team asked every interviewee, as well as the specific questions tailored towards each stakeholder group.

3.3.1 Interview Procedure

The team conducted interviews in groups of two, with one person serving as question facilitator and the other serving as the note taker and observer. One team consisted of Elizabeth van Zyl and Elizabeth Walfield, and the other consisted of René Jacques and Breanne Happell. Members of each team switched roles of note taker and question facilitator between interviews. The project team decided that splitting into two teams of two would avoid overwhelming the interviewee as well as enable the team to book more than one interview in one time slot.

Interviewees were initially contacted by email. The email explained the project as well as introduced the group members, serving as an initial contact that invited the possible interviewees to respond. Appendix A shows the introduction email. Due to a lack of responses, the project team called each possible interviewee to set up an interview time and date. Callers introduced themselves, then introduced the project, and asked if the interviewee would be comfortable with an interview to collect their opinions on the flood protection methods implemented in the Lower Wairarapa Valley.

Before each interview started, the project team read a disclaimer to each interviewee. This disclaimer is at the beginning of each interview sheet in Appendices A, B, and C. After the interviewees heard the disclaimer, the project team asked if they could record the interview. Based on the interviewee's answer, the note taker either started the recording device or put it away.

The project team developed open-ended questions that were specifically designed to target each stakeholder group's unique stake in the flood protection scheme. These questions allowed the conversation to digress from the original topic, while still allowing the interviewee to reveal aspects about Wairarapa Moana that were specifically meaningful or important to them.

3.3.2 General Questions

The project team developed questions that they asked all interviewees in order to establish opinions across all stakeholder groups:

1. Are you a Lower Wairarapa Valley Development Scheme ratepayer?

2. What does the Wairarapa Moana mean to you?
3. What do you know about the barrage gates and the Ruamahanga River Cutoff?
4. How have flood protection methods affected the Lower Wairarapa Valley?
5. Please rank the water quality in Lake Wairarapa on a scale from 1 to 5. (With 1 indicating poor water quality and 5 indicating excellent water quality)
6. What is your understanding of the resource consent process?
7. Who else would you recommend we interview?

Question 1: The purpose of this question was to identify if the interviewee lived on or owned land that benefited from the flood protection scheme.

Question 2: The project team believed that the interviewee's association with and views of Wairarapa Moana would provide valuable insight into the interviewee's interests in the area.

Question 3: This question gauges the interviewee's understanding of the barrage gates and Ruamahanga River Cutoff to identify whether or not their understanding is adequate enough to ask more technical questions.

Question 4: The project team asked this question to determine where the interviewee feels that the flood protection scheme has had the most impact and whether the interviewee views the impact as positive or negative.

Question 5: During the research phase of the project, the team identified water quality to be a significant point of contention in the Lower Wairarapa Valley. This question serves to identify where the

stakeholder groups would rank the water quality to help pinpoint if there are any major differences in opinions between the stakeholder groups.

Question 6: This question serves to determine if the interviewee understands the resource consent process enough to answer more in depth questions.

Question 7: The project group asked every stakeholder group this question to ensure that the team was talking to the correct people and to mitigate any bias that may have arisen from whoever recommended the interviewee.

3.3.3 Lower Wairarapa Valley Development Scheme Managers Interview Questions

The full structured list of questions that the team developed to ask the managers of the Lower Wairarapa Valley Development Scheme is in Appendix B.

B2: How are you involved in the management of the Lower Wairarapa Valley Development Scheme?

B4a: Do you feel that the current management system of the barrage gates is fair to all involved stakeholders?

B4b: What are your primary concerns when managing the barrage gates?

B4c: How would you like to see the barrage gate and the Ruamahanga River Cutoff managed in the future?

Question B2: This question determines the interviewee's influence and position in the current management of the flood protection scheme.

Question B4a: The project team felt that this question was particularly important to ask, as the managers of the flood protection scheme will be compiling and submitting the new resource consent. The team asked this question to identify if the interviewees felt that the opinions of the different stakeholder groups were currently incorporated fairly.

Question B4b: This question determined what the managers found particularly important about the barrage gates, or what aspects will be particularly important in the future.

Question B4c: The project team asked this question to see what possible changes the management of the scheme would recommend during the new resource consent application process.

3.3.4 Farmers Affected by the Scheme Interview Questions

The full structured list of questions that the team developed to ask the farmers affected by the scheme is in Appendix C.

C2: Are you involved in the management of the Lower Wairarapa Valley Development Scheme?

C4a: Do you feel that the current management system of the barrage gates is fair to all involved stakeholders?

C4b: How would you like to see the barrage gate and the Ruamahanga River Cutoff managed in the future?

Question C2: This question identifies if the interviewee is on the advisory committee for the Lower Wairarapa Valley Development Scheme.

Question C4a: This question serves not only to identify if the interviewee felt the flood protection scheme incorporated their opinions, but also to determine if they felt that there were any other stakeholder groups left out.

Question C4b: The project team asked this question to identify if there are any recommendations or changes to the management that the interviewee felt to be necessary.

3.3.5 Ngāti Kahungunu Interview Questions

The full structured list of questions that the team developed to ask members of Ngāti Kahungunu is in Appendix D.

D1: What is your current occupation?

D3: Which iwi and hapū do you identify yourself with?

D4: When did you last visit Lake Wairarapa?

D5: Do you partake in any recreational activities in Wairarapa Moana?

D6: What is the history of your hapū in Wairarapa Moana?

D9: How are you and your iwi/ hapū affected both culturally and economically by the flood protection methods?

D12: How do feel about the current Lake Wairarapa water levels?

D13: Do you feel that your opinions are incorporated into the current flood protection plan?

D14: How important is flood protection in the Lower Wairarapa Valley to your hapū?

D15: What changes would you make to the current flood protection methods?

Question D1, D3, D4, D5: These questions serve to collect demographic information about the interviewee.

Question D6, D9: The project group asked these questions to gain valuable insight into the history of the interviewee's family in the region, as well as how the flood protection plan has affected them.

Question D12: This question allows interviewees to express their opinions on the flood protection scheme without needing to know specifics about the barrage gates or river cutoff.

Question D13: This question gauges whether the interviewee felt that the flood protection plan fairly incorporated their stakeholder group's opinions.

Question D14: Refer to the above explanation for questions D6 and D9.

Question D15: This question aimed to identify what aspects of the flood protection plan that the interviewee thinks need improvement, and what specific changes that they would like to see.

3.3.6 Interview Recommendations

Throughout the project, the team received contact information for specific people in each stakeholder group from various sources. Ian Gunn, the project team’s contact at the Greater Wellington Regional Council, provided the team with the names of our initial contacts. Table 3.1 lists the contacts. The team’s contact person recommended reaching out to these individuals as they are influential members of each of our stakeholder groups.

TABLE 3.1 NAMES OF INITIAL CONTACTS

Name	Stakeholder Group
Paora Amunsden	Ngāti Moe
Ranjan Cyril	Manager of the LWVDS
Mark Lovett	Chairman of the Advisory Committee
Rawiri Smith	Ngāti Kahungunu ki Wairarapa
Haami Te Whiti	Ngāti Hinewaka

David Boone, an employee of the Greater Wellington Regional Council who works on the Lower Wairarapa Valley Development Scheme, helped the team set up interviews with some of the managers of the scheme. The list of managers of the Lower Wairarapa Valley Development Scheme is below in Table 3.2.

TABLE 3.2 NAMES OF LOWER WAIRARAPA VALLEY DEVELOPMENT SCHEME MANAGERS

David Boone
Ranjan Cyril
George Harley
Wayne O’Donnell

Ranjan Cyril, a manager of the scheme, gave the team the names and contact information for the farmers who serve on the Lower Wairarapa Valley Development Scheme advisory committee. The list of contacts is in Table 3.3.

TABLE 3.3 NAMES OF ADVISORY COMMITTEE MEMBERS

Neville Davis
Bernie George
Mark Lovett
Charlie Matthew
Mike Moran
Rody Sutherland
Toby Sutherland
Gerard Vollebregt

Rawiri Smith, a member of Ngāti Kahungunu, set up interviews for the team with different members of Ngāti Kahungunu ki Wairarapa, as seen in Table 3.4. The team discerned that Rawiri Smith scheduled interviews with these specific individuals because they were available and a few of them were influential members of Ngāti Kahungunu.

TABLE 3.4 NAMES OF NGĀTI KAHUNGUNU MEMBER CONTACTS

PJ Devonshire
Matama Fox
Tai Gemmel
Charmaine Kawana
Henare Manaena
Matt Paku
Nelson Rangī
Frances Reiri-Smith
Charlene Te Tau
Matama Te Tau
Tirau Te Tau
Haami Te Whaiti
Ngaere Webb
Alex Webster

Ian Gunn also gave the team the names and contact information for farmers who may not be on the Lower Wairarapa Valley Development Scheme Advisory Committee, but still have property the scheme protects from flooding. These names are in Table 3.5.

TABLE 3.5 NAMES OF FARMER CONTACTS AFFECTED BY THE SCHEME

Sandy Bidwell
Vern Brasell
Bernie George
Brad Gooding
Bob Green
Mark Johnson
Charlie Matthew
Raymond Mathews
Mike Moran
Rody Sutherland
Toby Sutherland
Gerard Vollerbredgt
Matt Wall

The project team contacted all of the stakeholders listed above. However, the project team was not able to schedule interviews with all of the aforementioned names. Appendix E shows a list of all people interviewed and their corresponding stakeholder group.

3.4 Analyzing the Interview Data

The following section describes the steps taken to collect and analyze information gathered through semi-structured interviews.

1. Contact Interviewee and Conduct Interview

Section 3.3.1 describes how the interviewees were initially contacted and the protocol used to conduct the interviews.

2. Transcribe the Interview

At the beginning of each interview the project team asked the interviewee for permission to record the interview. If allowed, the project team transcribed the recording so that the team could use accurate information and quotes in the analysis process. If permission to record the interview was not granted then the project team took notes during the interview to analyze later.

3. Coding Highlighting

Figure 3.2 shows the different coding categories decided upon by the project team. The team decided on these categories based on the main topics that the interviews covered. Two members of the project team coded each interview, where one coder served as the initial coder and the second coder ensured that the interview was properly coded. By having each interview coded by two people, it reduced any bias that an individual coder may have, which provided a form of quality assurance. The coders would read through the entirety of the interview and highlight any quotes about one of the coding categories in its corresponding color.



FIGURE 3.2 CODING CATEGORIES

4. Organization of Highlighted Section into Spreadsheet

Next the second coder put all of the highlighted quotes directly into the spreadsheet under the corresponding column. The team organized the spreadsheet with each different coding category in its own column and each interviewee having three rows. One row would have the direct quotes for each coding category, the next row would categorize the viewpoint as positive, negative or not applicable, and the third row would summarize the interviewee's opinion on the coding category (Figure 3.3). The team transferred direct quotes into the spreadsheet to save on time and also to ensure that the interviewee's opinion was not misrepresented.

	A	V	W	X
1		Environment		
2		Water quality	Pollution	Climate Change
15				
16	Name			
17	Viewpoint	+	-	NA
18	Summary			
19				

FIGURE 3.3 CODING SPREADSHEET

5. Concise Viewpoint

Once the second coder organized all of the interviewee’s quotes on the coding categories into the spreadsheet then the coder categorized the interviewee’s viewpoints as either positive, negative, or not applicable. The team did this so that the project team could identify how many interviewees had an overall positive view on a certain topic and how many did not.

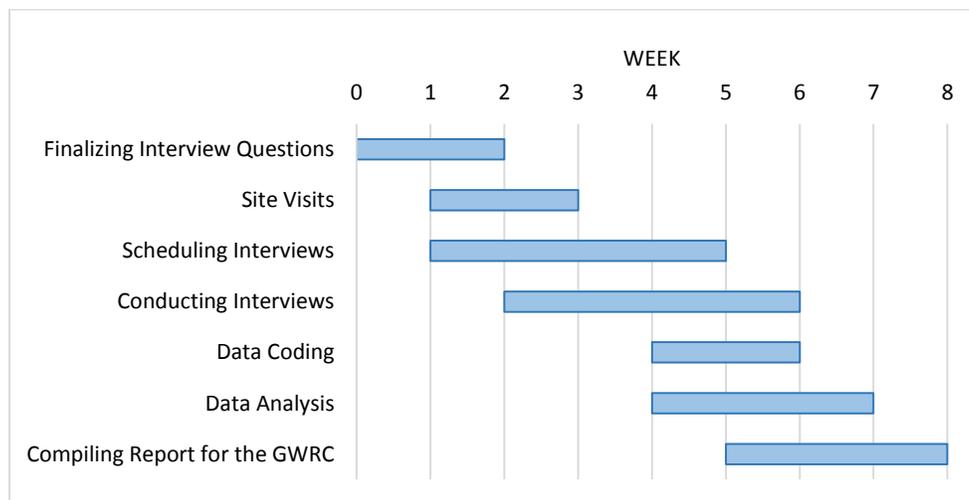
6. Summarize Information

After the team added all of the data to the spreadsheet and identified the viewpoints, the project team summarized the data into the spreadsheet. Appendix I contains the completed coding spreadsheet. The team summarized each interviewee’s opinion on all of the different coding categories to help identify common themes between stakeholder groups.

3.5 Methodology Overview

The breakdown of how much time the project team spent on each phase of the project is in Table 3.6.

TABLE 3.6 GANTT CHART OF TASKS



* The team conducted interviews on 15/1, 31/1, 2/2, 3/2, 9/2, 11/2, 15/2 (2016)

The team's Gantt chart changed slightly throughout the project as the project team had to separate out interviews due to geographical location. Overall the team was able to allot time accurately for each individual task. The following chapter contains the project team's data and analysis.

4.0 Results and Analysis

The following chapter presents the results of the project team's internal research, site observations and interview analysis. The site observation and interview analysis directly meets objectives 1, 2 and 3. These objectives were to understand current management methods of the Geoffrey Blundell Barrage Gates and the Ruamahanga River Cutoff, to gather stakeholder views in regards to the flood protection methods, and to identify conflicts and opportunities regarding the current resource consent plan. Lastly, the completion of the report meets objective 4 which was to compile stakeholder views and report the findings to the Greater Wellington Regional Council.

Section 4.1 discusses some of the internal research conducted with members of the Greater Wellington Regional Council. Section 4.2 discusses the site observation that the team conducted at the Wairarapa Moana. Section 4.3 discusses the analysis of the interviews that the team completed, including demographics of the interviewees, and analysis of the interviews with each stakeholder group. Finally, Section 4.3 concludes the chapter by making comparisons amongst the different stakeholder groups that the project team interviewed.

4.1 Internal Research

The team conducted internal research with members of the Greater Wellington Regional Council to develop a better comprehension of how the Greater Wellington Regional Council operates the Lower Wairarapa Valley Development Scheme. Upon arriving in New Zealand, the team had a general understanding of the management of the flood protection plan, but the team was unaware of the more intricate details. By talking to multiple managers and employees of the flood protection scheme the team was able to understand the complicated operation and management of the scheme.

The team also attended a cultural lecture with Māori representatives. The group did this to create a working relationship with our Māori contacts and also to identify any cultural differences. The project group discovered that Māori may interpret questions differently as Māori tend to approach things in a more holistic fashion. This is because Māori culture connects everything to the environment.

4.2 Site Observation

The project team visited both the Geoffrey Blundell Barrage Gates and the Ruamahanga River Cutoff. Ian Gunn, a representative of the Greater Wellington Regional Council, as well as Rawiri Smith, a

representative from Ngāti Kahungunu, gave the team a tour of the region to explain both the flood protection as well as some of the Māori culture associated with the land. The project team also sat in on a Wairarapa Moana Coordinating Committee meeting, where representatives from various stakeholder groups were in attendance.

4.2.1 Barrage Gates

The team visited the Geoffrey Blundell Barrage several times throughout the course of the project, and took pictures of the gates and surrounding waterways. Figure 4.1 shows the Geoffrey Blundell Barrage Gates. The Greater Wellington Regional Council had closed all six gates when the team visited, and the project team observed the flow of water from the fish passage at the foot of the gates. The flow of water was substantial as the water level on the Lake Onoke side of the gates was higher than that on the Lake Wairarapa side. At the time of the team's visit to the gate, the Greater Wellington Regional Council was in the process of trying to open the Lake Onoke spit and needed higher water pressure in order to allow the excess water to flow out to sea.



FIGURE 4.1 THE GEOFFREY BLUNDELL BARRAGE GATES

4.2.2 Ruamahanga River Cutoff

When the team observed the Ruamahanga River Cutoff, the water was very still, as there was no current flowing into the cutoff. Figure 4.2 shows the water being both still and having a green color.



FIGURE 4.2 GREEN COLOR OF THE RUAMAHANGA RIVER CUTOFF

There were also several signs on the shore of the cutoff that warned of potentially dangerous algae growth in the water. Despite this warning there were several small boat docks and ramps, as water skiers use the cutoff for recreation.

4.2.3 Wairarapa Moana Coordinating Committee Meeting

In attending the Wairarapa Moana Coordinating Committee meeting, the team observed the interactions between various members of the Wairarapa community and several of the staff involved in the management of the Lower Wairarapa Valley Development Scheme. Representatives from the Greater Wellington Regional Council, the Department of Conservation, Fish and Game, the South Wairarapa District Council, Kohunui Marae, the Lower Wairarapa Valley Development Scheme Advisory Committee, as well as the farming community were present. During the meeting three members of the farming community resigned, explaining that they did not believe the committee had accomplished anything over the last few years. Several of the farmers were also distressed that the Greater Wellington Regional Council was not listening to any of their opinions, and that the council would proceed with its plans regardless of any serious issues that any of the farmers may have brought up. The Chairman of the Lower Wairarapa Valley Development Scheme Advisory Committee (a group of farmer representatives from around Lake Wairarapa) also expressed his concern over the issue of the RAMSAR application, which he felt would impose further restrictions on the farmers. The current status of the RAMSAR

application was another issue that caused tensions as the farming representatives expressed frustration in regards to the lack of communication. This meeting allowed the project team to observe not only the interactions between the stakeholder groups that they would be interviewing, but also the interactions between other stakeholder groups in the region. Throughout the meeting it was clear to the team that there was tension between the farmers and the GWRC staff, but any tensions between the regional council staff and the Māori representatives were not evident.

4.3 Interview Analysis

The project team gained valuable information by conducting a total of 25 in-person interviews that ranged from ten minutes to an hour and ten minutes in length. Section 4.3.1 goes over the interviewee statistics, Sections 4.3.2, 4.3.3, and 4.3.4 explain the data analysis of the interviews with the management of the Lower Wairarapa Valley Development Scheme, the farmers affected by the scheme and members of Ngāti Kahungunu respectively. Section 4.3.5 compares and contrasts the opinions and views of all stakeholder groups.

4.3.1 Interview Demographics

The project team completed a total of 25 interviews. During interviews, the project team noted the gender of each interviewee. The team did this to help identify any difference in opinion that may be present due to gender. Figure 4.3 presents a graphical view of the gender demographics in each stakeholder group.

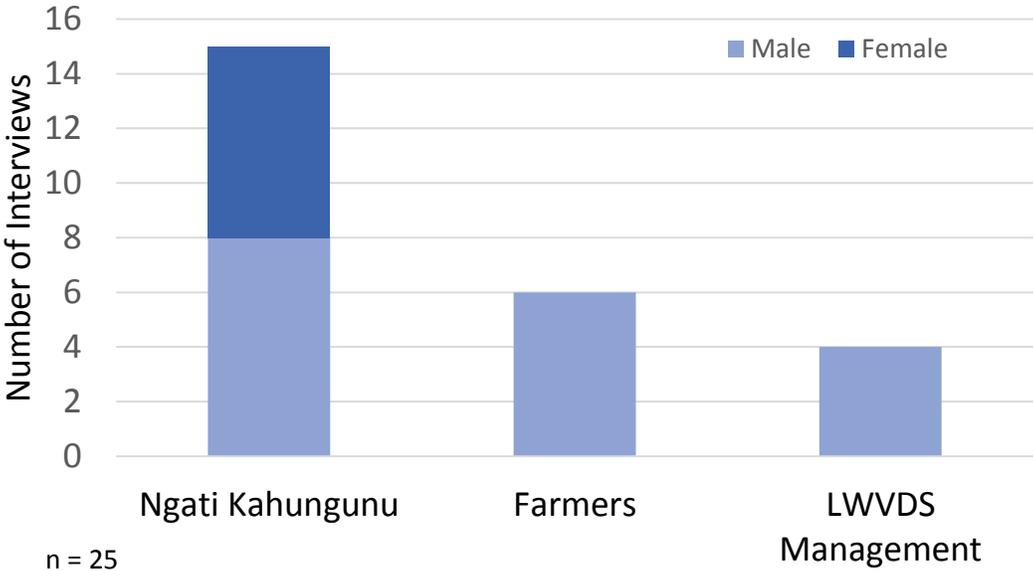


FIGURE 4.3 GENDER DEMOGRAPHICS OF STAKEHOLDER GROUPS INTERVIEWED

Of the 15 members of Ngāti Kahungunu that the project team interviewed, 7 were female and 8 were male. This shows that the project team was able to achieve a good balance of female and male Ngāti Kahungunu representatives. The project team was not able to find this balance when interviewing the farmers or the managers of the scheme. This is because both industries are very male dominated. Throughout the project, the team was unable to contact any female farmers or female staff members of the Lower Wairarapa Valley Development Scheme. For this reason, all farmers and Lower Wairarapa Valley Development Scheme managers that the team interviewed were male.

The project team asked each interviewee if they were a ratepayer to the Lower Wairarapa Valley Development Scheme. This determined if the interviewee owned land that the scheme protected. All of the interviewed farmers were ratepayers, as they owned land residing along the shore of Lake Wairarapa. None of the scheme managers that the team interviewed are ratepayers. Three of the Ngāti Kahungunu members that the team interviewed are ratepayers to the scheme, whereas the rest of the members live in towns in the region surrounding the lake. Figure 4.4 shows the distribution of scheme ratepayers in each stakeholder group.

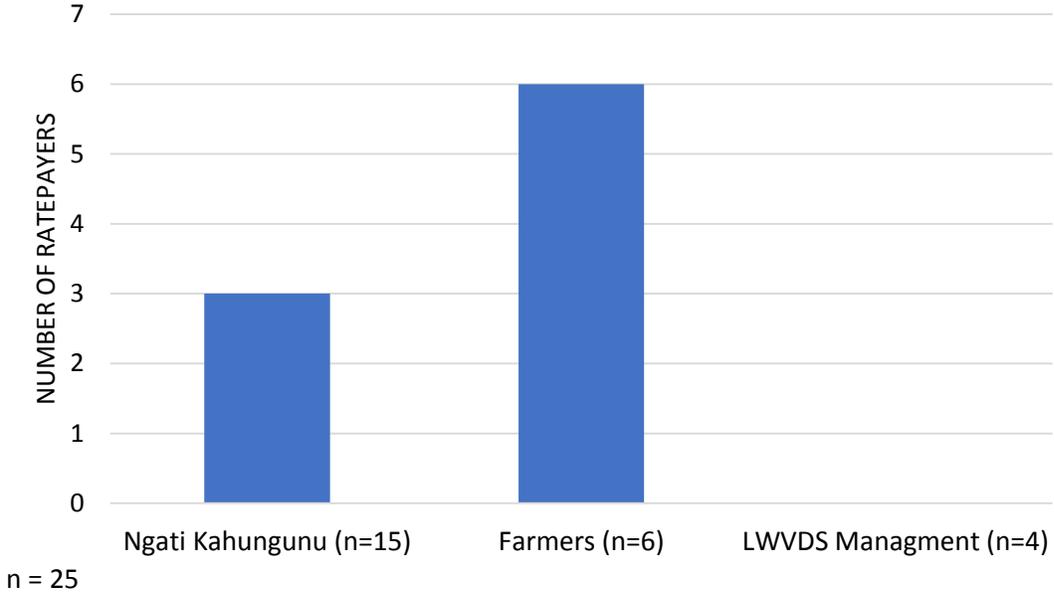


FIGURE 4.4 DISTRIBUTION OF LOWER WAIRARAPA VALLEY DEVELOPMENT SCHEME RATEPAYERS

4.3.2 Management of the Lower Wairarapa Valley Development Scheme

The project team conducted four interviews with the Greater Wellington Regional Council staff in charge of the management of the Lower Wairarapa Valley Development Scheme: the Scheme Works Manager, the General Manager for the Catchment Management Group, a Project Engineer, and the

Section Leader of Wairarapa Flood Protection. Appendix F contains the transcripts of the interviews with the scheme managers. The internal research conducted previously gave the project team a better understanding of the operation of the scheme, whereas the interviews with the scheme managers helped to determine some of the main concerns, stakeholder involvement, and changes for the future to the management of the scheme.

The managers of the Lower Wairarapa Valley Development Scheme operate the barrage gates depending on the current flood situation and ensure that all flood protection methods are in working condition. The management's main focus for the operation of the barrage gates is on the landowners who benefit from the flood protection plan, the majority of whom are farmers. The management therefore prioritizes minimizing flood risk in order to protect the land around Lake Wairarapa. Farming around the lake would not be possible in the first place without the Lower Wairarapa Valley Development Scheme. Combining all three stakeholder groups, 28% of the interviewees brought up farming as a driving factor for the installation of the barrage gates.

The managers of the scheme are constantly monitoring the scheme. One of the interviewees said of the scheme: "...this is... [what] you call a live scheme actually... it's not a scheme that you can just construct and walk away [from] because... there are a lot of things happening... because of nature." His point was that the scheme needs constant supervision in order to operate properly, which can be very difficult due to changing weather patterns. These weather patterns often cause the Lake Onoke Spit to close, which cuts the lake off from the sea and means that a large flood event is possible as the water in Lake Onoke and Lake Wairarapa has nowhere to go when the water level rises.

Another area of concern for the managers of the scheme is the migration of fish and eels. Three of the four managers of the scheme expressed opinions that fish passage through the barrage gates still needs improvement. Young eels try to migrate into Lake Wairarapa from the sea at certain times of the year along with whitebait, and the barrage gates block them from performing this migration. "...[We] have difficulty with... opening the gates at certain times to allow fish passage but the consent doesn't actually allow that to happen, there's restrictions on the heights and so forth..." said one scheme manager. His concern was that, in order to help the eel and whitebait, the Greater Wellington Regional Council needs to open the gates to allow them to pass. But the current resource consent does not allow that to happen because when the management opens the gates the water flows from Lake Onoke into Lake Wairarapa. Without the high levels of water in Lake Onoke it is harder to use water pressure to open the spit. This increases the possibility of a flood event as more water gets trapped inland.

One interviewee brought up the protection of the gates themselves: "...one of the other... concern[s]... is liquefaction... we've got a big ton of concrete and steel sitting there on basically sand. And we've got the main Wairarapa fault line only a few hundred meters to the west. Now if we have a major movement on that fault it could easily move in which case, [the barrage gates become] potentially worthless." Essentially if there is a large enough earthquake then the entire concrete gate structure could shift, which would make it completely inoperable. The management of the scheme has therefore started to create a contingency plan in case of a catastrophic earthquake event.

The interviewees also commented on the degradation of the water quality in the lake. When asked about the water quality in the lake all four of the managers indicated that the quality was poor. One pointed out that the flood protection scheme has "... introduced a type of farming which has had a big impact on water quality. So as a result we've seen those wetlands either disappear or be degraded." In conjunction with this comment another interviewee mentioned phosphates and nitrates as a contributing factor to the pollution. So while the scheme allowed dairy farming, an economically beneficial industry, to grow around the lake, it also decreased the water quality due in part to the farms' proximity to the lake.

Three of the managers believed that the Greater Wellington Regional Council had incorporated the opinions of the stakeholders around Lake Wairarapa fairly. One manager, when asked, said; "I think so... because one thing is... we have a consent to operate it and that consent has been granted after consulting all of the stakeholders... I don't think [a] hundred percent [of] everyone's interest[s] are served... but... all in all I think it's fair." The manager's point was that in order for the consent to pass the stakeholders have to agree and pass it. Since stakeholder opinions are necessary for a resource consent to pass, the manager felt that the Greater Wellington Regional Council was incorporating the stakeholders' opinions into the resource consent.

In general, the interviewees shared many of the same concerns about the Lower Wairarapa Valley Development Scheme, but they believe that most of their concerns are "things that we should be able to resolve through the consent renewal process."

4.3.3 Farmers affected by the Lower Wairarapa Valley Development Scheme

The project team conducted six different interviews with farmers living around Lake Wairarapa. Appendix H contains the six transcripts of the interviews with the farmers affected by the Lower Wairarapa Valley Development Scheme. The project team asked questions to learn the farmers'

opinions on the management of the flood protection scheme and their connection and history in the Wairarapa Moana. All of the farmers interviewed are ratepayers of the Lower Wairarapa Valley Development Scheme. This means that they are beneficiaries of the scheme as all of their farms rely on the flood protection plan to keep their pastures from flooding.

Half of the farmers interviewed specifically talked about how vital the barrage gates were to their farms and pasture lands. One of the farmers stated that “those barrage gates and that lake are critical to us here.” These words show how much the farmers depend on the flood protection methods, as they not only allow farming of the land but also allow the farmers to reside there.

Two of the farmers brought up the conflict between farming and the environment that exists in the Lower Wairarapa Valley. One farmer talked about the relationship between farming and the environment, stating “I’m always saying that there has to be a bit of a balance. You have to help the environment but you can’t go completely overboard.” Two farmers expressed a desire to help protect the environment but described how many of the proposed solutions are not possible. Some of the older farmers expressed concern for future generations of farmers, as milk prices have been dropping and environmental factors have placed more restrictions on farming practices.

Two of the six farmers interviewed discussed the fish passage, and they each expressed different opinions. One farmer had a neutral opinion but expected to see changes to the way that the fish passage operates in the future. Another farmer explained that “If it doesn’t interfere with the flood protection then it’s fine, I don’t think it needs to change since there is already a fish passage. I have seen it blocked by sticks and such though so it needs to be kept open for it to work.” Although this farmer did not feel that the fish passage needed changing, he did feel that the Greater Wellington Regional Council should maintain it better. In addition, one third of the farmers interviewed expressed frustration over the Greater Wellington Regional Council placing the needs of the fish before the needs of the farmers in terms of gate management. One farmer said, “The fish have more protection than the people on the land.”

Water quality was also a very interesting topic amongst the farmers. Some felt that they were not to blame at all, whereas one farmer openly admitted that farming was the cause of the poor water quality in Lake Wairarapa. When the team asked this farmer if he felt that many people blamed farmers disproportionately for the pollution in Lake Wairarapa he responded, “Well they do get a lot of the blame, but we are to blame.” The farmer went on to explain “that’s a difficult subject because ... Lake

Wairarapa is ... really the sink pit of the whole Wairarapa. And New Zealand has been built on phosphate, nitrogen and everything else that comes from millions of animals and plus all the town water." One third of the farmers did bring up the fact that all of the storm water from the surrounding towns goes directly into Lake Wairarapa, and this practice is definitely contributing to pollution in the lake. Out of all the interviewees who the project team asked about water quality in Lake Wairarapa (n=18), 37% spoke about farmland contributing to pollution.

One of the farmers talked about the future role of climate change on the scheme, saying "on top of that you got climate change, global warming and the sea coming up, we won't be able to open the gates. It will all be a nightmare." Along with climate change, the settlement process involving Māori land claims is likely to cause changes to the management of the flood protection methods in the future. One farmer discussed the land settlements, stating "... things are getting a bit tricky now with the local natives. They're wanting to take the lake back and they are all concerned with the fish and the eels."

The farmers expressed various opinions on the management of Lower Wairarapa Valley Development Scheme and potential changes for the new resource consent proposal. Two farmers brought up the importance of keeping the lake levels low. One farmer stated "Well it could be used to keep the lake levels lower. Lake levels are often too high, especially in the winter, which causes erosion on the shores here. The water should be kept at a lower level. They need a more urgent approach to keeping the lake lower, especially during the wetter part of the year." This shows how important low lake levels are to not only preventing flooding but also keeping the shores from eroding. Similarly, another farmer expressed a need for urgency when managing the lake levels. He described "I think that they need a more automated system so that it's quicker in its response. Some days the bottom lake can flood really quickly and if the bottom lake is shut that water will have nowhere to go and will come up and if there's an automated timer then at a certain level then it will stop that automatic flooding."

Three of the farmers interviewed felt that the Greater Wellington Regional Council was not incorporating their opinions into the management of the flood protection scheme. When asked what they would change about the current flood protection plan, two farmers said that they would like more say in how the regional council manages it. On the other hand, two farmers felt that the Greater Wellington Regional Council was incorporating their opinions into the flood protection scheme. One farmer, when asked if he felt that the Greater Wellington Regional Council was incorporating his opinions into the current flood protection scheme responded saying "Yes, I think that it is and with the advisory committee we're only coming from one angle and that's flood protection."

4.3.4 Members of Ngāti Kahungunu

The team conducted a total of 15 interviews with members of Ngāti Kahungunu. Members within the iwi affiliate with several different hapū including Ngāti Moe and Ngāti Hinewaka. Appendix G contains the transcripts of the interviews with the Ngāti Kahungunu members. During these interviews the project team asked questions to gain an understanding of the importance of the Wairarapa Moana to members of Ngāti Kahungunu and to learn their opinions on the management of the scheme.

The project team asked all of the Ngāti Kahungunu members interviewed what recreational activities they participated in around Lake Wairarapa. Figure 4.5 shows the distribution of different recreational activities that the interviewees participated in around the lake. Fishing, boating, and sightseeing are some of the most common recreational activities that the interviewees participated in around the lake.

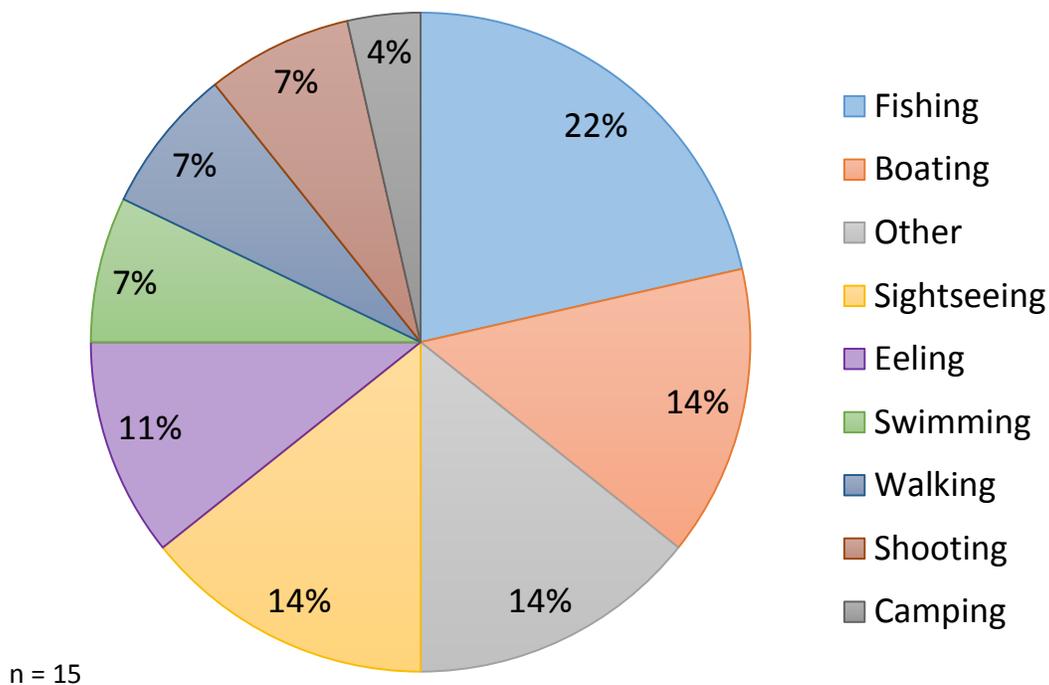


FIGURE 4.5 DISTRIBUTION OF RECREATIONAL ACTIVITIES AROUND LAKE WAIRARAPA OF NGĀTI KAHUNGUNU INTERVIEWEES

During an interview the project team asked a member of Ngāti Kahungunu what the Wairarapa Moana meant to them. One response was “the kind of idea of what home means to you is what Wairarapa Moana means to us.” It is very clear after interviewing members of Ngāti Kahungunu that the

Wairarapa Moana is very important to the iwi. Out of the iwi members interviewed, 66% spoke about a connection or relationship with the land.

Historically the Wairarapa Moana had been a place for the Māori to hunt tuna (commonly known as eels). However, the effects of the scheme have decreased the water levels in Lake Wairarapa, thus changing the habitat required by eels to flourish. Consequently, when the project team asked Ngāti Kahungunu members how they would alter the management of the barrage gates, six said that they would want to increase the water level in Lake Wairarapa. The methods the Ngāti Kahungunu members suggested to meet this objective ranged from moderate to extreme. On the moderate end one member suggested that the Greater Wellington Regional Council leave the gates open more often for higher lake levels and improved fish passage. On the other end, two Ngāti Kahungunu members wanted the regional council to remove the gates altogether. In the words of one member of Ngāti Kahungunu: "We want our rivers back, but then you know why was the barrage gate put there in the first place? I don't know. I really don't know. I'd like to see it (the barrage gates) gone." Overall, 60% of the Ngāti Kahungunu members interviewed expressed negative views when talking about the barrage gates.

Six out of fifteen members of Ngāti Kahungunu expressed views that the Greater Wellington Regional Council should reconnect the Ruamahanga River to Lake Wairarapa through the cutoff. Ngāti Kahungunu perceives rivers to be the flowing of life and so "... the life force of that river, even though it's only a small piece of the Ruamahanga, has died."

One major concern voiced by five Ngāti Kahungunu members interviewed regarding the barrage gates was fish and eel passage. In order to facilitate fish and eel migrations the Greater Wellington Regional Council installed a hole through the base of the barrage gates. All five Ngāti Kahungunu that brought up the fish passage felt that it is inadequate. One Ngāti Kahungunu said in an interview, "So under much protest from Māori they... put in a hole that would allow the eels to travel through... They put the hole... down at the bottom... eels don't swim on the bottom. They swim on the top. Eels weren't going through." Another barrier to native fish and eel species that the Māori identified was the insertion of invasive species such as carp. One third of the Ngāti Kahungunu members interviewed brought up invasive species as a reason for native fish and eel population decline in Lake Wairarapa.

Another concern of Ngāti Kahungunu is the poor water quality of the lake. When the project team asked them to rate the water quality in Lake Wairarapa on a scale from 1 to 5, with 1 indicating poor water quality and 5 indicating excellent water quality, all of the members asked about water

quality gave a rating between 1 and 2, or a qualitative answer describing poor water quality. When speaking about specific water quality concerns, 6 spoke about nutrients such as phosphates and nitrates, 4 spoke about runoff, and 5 spoke about sedimentation. According to one Ngāti Kahungunu the water quality is so poor that swimming in the water has become dangerous. “We are unable to swim in these rivers because of the absolute crap that’s coming through the runoff.” The pollution in the lake appeared to be an upsetting issue for one member of Ngāti Kahungunu. “There’s just this huge sadness, you see where the river was so key to helping flush out our lakes... and not have the algae bloom and all this stuff happening and it’s happening because there’s so much crap and everything in our waterways at the moment.” Sixty-six percent of Ngāti Kahungunu members interviewed spoke about Wairarapa Moana as a part of their identity and described a sense of interconnectedness. One Māori explained how the health of the lake impacts the health of the Māori.

The Ngāti Kahungunu members interviewed also felt as though the Greater Wellington Regional Council isn’t taking their opinions into account when making flood management decisions. Five members expressed this concern. When the project team asked if the Ngāti Kahungunu interviewees believed the regional council incorporated all stakeholders’ views into the resource management, one member of Ngāti Kahungunu accused the Greater Wellington Regional Council of tokenism when speaking to the Māori. The interviewee stated “No, there’s not much consultation and if there is its just tokenism.”

4.3.5 Comparison of Stakeholder Perspectives

Interviews with the management of the Lower Wairarapa Valley Development Scheme were very different from interviews with the farmers and members of Ngāti Kahungunu as the managers did not have land that the flood protection scheme affected. All of the farmers that the project team talked to have farmland directly affected and protected by the scheme. On the other hand, most of the members of Ngāti Kahungunu that the team interviewed are not ratepayers to the scheme but the changes the scheme has had on the region have affected them both culturally and economically.

The majority of the members of Ngāti Kahungunu are very concerned with protecting the environment. The Ngāti Kahungunu interviewees have a particular interest in native fish and eel populations that have been drastically decreased. One of the changes they would make to the current management of the barrage gates is to increase fish passage by opening the barrage gates more often to let the fish through. All of the farmers on the other hand want to ensure that the barrage gates operate

in a way that best protects their farmland from flooding. The farmers want to keep the lake levels as low as possible to help prevent erosion along the shore.

Ten interviewees brought up the topic of fish passage without prompt from the interviewer. Out of the ten interviewees, 84% voiced the opinion that the fish passage is inadequate and could use improvement. One interviewee talked about the fish passage but took a neutral stance on the topic. Conversely, another interviewee thought that the current fish passage is adequate and doesn't require any modification. Figure 4.6 shows these results.

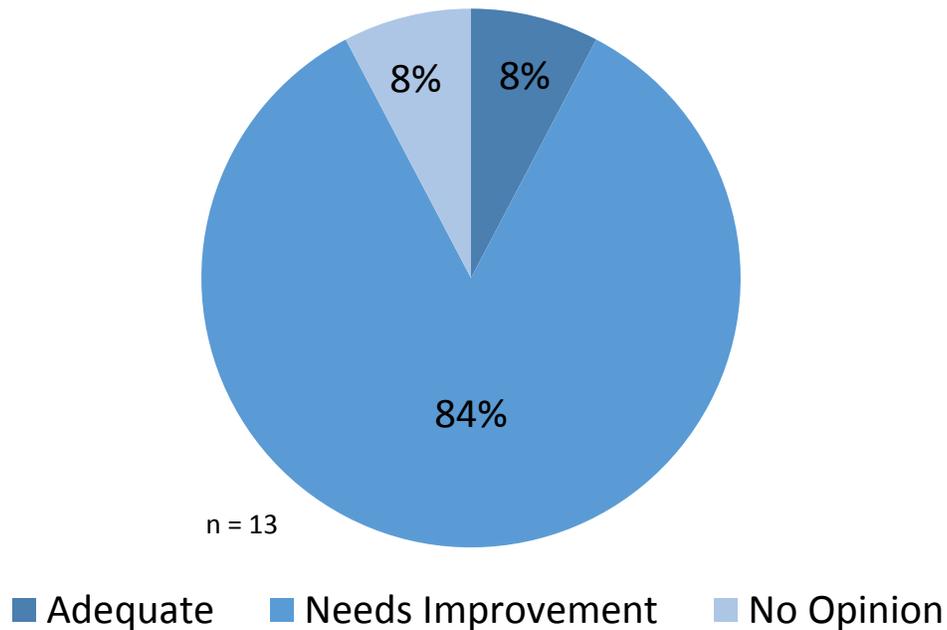


FIGURE 4.6 INTERVIEWEE OPINIONS ON FISH PASSAGE

Another concern that was prevalent among all stakeholder groups was water quality. When asked to rate the water quality from 1 to 5, with 1 indicating poor water quality and 5 indicating excellent water quality, no interviewees rated the quality above average (3) and 100% (n=18) rated the water quality as below average or worse (Figure 4.7).

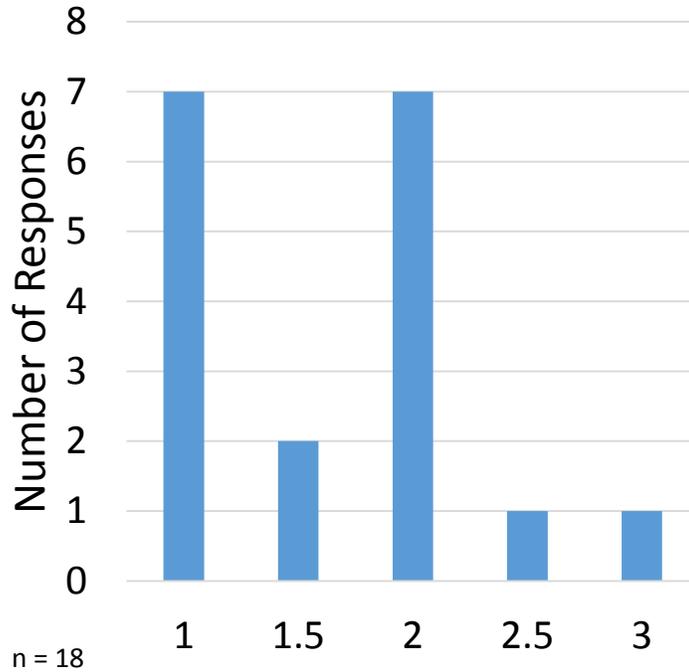


FIGURE 4.7 INTERVIEWEE RANKING OF WATER QUALITY IN LAKE WAIRARAPA

While talking about water quality the interviewees brought up different water quality concerns. Interviewees talked about runoff, sediment, and nutrient pollution most frequently. The interviewees brought up these topics 30-45% of the time without being prompted.

Members of Ngāti Kahungunu and the farmers had conflicting answers on many questions. However, a significant number of interviewees from both stakeholder groups felt that the Greater Wellington Regional Council was not actually listening to or incorporating their opinions. Both of these stakeholder groups emphasized that a major change that needs to occur is better communication between the Greater Wellington Regional Council and the stakeholder groups.

5.0 Conclusion

This project evaluated stakeholder groups' opinions on the flood protection methods used in New Zealand's Lower Wairarapa Valley. The project team's sponsor, the Greater Wellington Regional Council, is applying for a new resource consent to operate the Geoffrey Blundell Barrage Gates in 2019. The regional council must incorporate the opinions of all stakeholder groups in the region into the resource consent application. To determine the stakeholder groups' views on the management of the flood protection methods the project team conducted semi-structured interviews with five different stakeholder groups including Ngāti Kahungunu, Hapū Ngāti Moe, Hapū Ngāti Hinewaka, the managers of the Lower Wairarapa Valley Development Scheme, and the farmers living around the lake affected by the scheme.

The project team completed 25 in-person interviews to help determine the community's opinion on the current management of the barrage gates and Ruamahanga River Cutoff. Our research shows that both the farmers living around Lake Wairarapa and the Ngāti Kahungunu members interviewed feel that their opinions are not listened to or incorporated into the management of the flood protection scheme.

The team determined that the following were the main concerns that the stakeholder groups agreed on:

- Improve fish passage
- Clean up pollution in the lake
- Eradicate invasive species
- Restore native fish populations

The main differences in opinion were about the water levels in Lake Wairarapa. The Ngāti Kahungunu members and farmers interviewed have opposing views on what these levels should be. The Ngāti Kahungunu interviewees wish to have higher lake levels while the farmers would like lower lake levels. The Greater Wellington Regional Council will have to come to a compromise on this management issue.

One of the major challenges faced by the team was scheduling and transportation to and from the interviews. The project team, based in Wellington, had to travel to the Lower Wairarapa Valley for all of the interviews completed. Additionally, the project team had to travel to many of the farmer's homes in order to conduct the interviews, which were often far away from the nearest town center. The

project team could have been better about asking the same questions to each interviewee consistently. Due to the semi-structured nature of the interviews some questions were occasionally not asked which made analyzing the data much harder. Limiting the length of the interviews may have proved useful as the team ended up with a number of long interviews that provided a lot of irrelevant information.

Hopefully the knowledge that both Ngāti Kahungunu and farmers feel that their opinions were not incorporated by the Greater Wellington Regional Council will prompt the stakeholder groups to work together to ensure that this does not continue. The completion of this project shows the Greater Wellington Regional Council the opinions of the stakeholders so that the GWRC can incorporate these opinions into the next resource consent. This will expedite the next resource consent application process and increase the likelihood that all stakeholder opinions will be incorporated fairly.

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APPENDIX A: Initial Contact Email

Kia ora,

We are a group of four university students from the United States, attending Worcester Polytechnic Institute. We are working with the Greater Wellington Regional Council on a project as part of the degree requirements for our university.

The Greater Wellington Regional Council has tasked us with collecting community opinions on certain aspects of flood protection methods in the Wairarapa region. Specifically we will be focusing on the barrage gates and Ruamahanga River Cutoff. We will be collecting community opinions on the flood protection methods through the use of interviews and short surveys. This information will then be reported back to the Greater Wellington Regional Council. The results of this study can also be made available to you.

Would you be open to scheduling a meeting with us so that we could obtain your opinion? Your participation will be greatly appreciated.

We can be reached through email at barrage@wpi.edu

Regards,
Breanne Happell, René Jacques, Elzani van Zyl, Elizabeth Walfield

APPENDIX B: Lower Wairarapa Valley Development Scheme Interview Sheet

Note Taker: Breanne Happell
Question Facilitator: Elzani van Zyl
Observer: Elizabeth Walfield
Recorder: René Jacques:



We are working with the Greater Wellington Regional Council to determine the views and opinions of the Lower Wairarapa Valley Development Scheme in regards to the management of the barrage gates and Ruamahanga River Cutoff.

You are not required to answer any questions that may be asked and you may stop the interview at any time. Your participation is completely voluntary and you may withdraw any information you submit at any time.

Do we have your permission to record this interview? If yes then your answers will be recorded and may be used in the future.

- 1. Are you a Lower Wairarapa Valley Development Scheme rate payer?**
- 2. Are you involved in the management of the Lower Wairarapa Valley Development Scheme?**
- 3. What does the Wairarapa Moana mean to you?**
- 4. What do you know about the barrage gates and the Ruamahanga River Cutoff?**
 - 4a. Do you feel that the current management system of the barrage gates is fair to all involved stakeholders?**
 - 4b. What are your primary concerns when managing the barrage gates?**
 - 4c. How would you like to see the barrage gate and the Ruamahanga River Cutoff managed in the future?**
- 5. How has the Lower Wairarapa Valley Development Scheme affected the Lower Wairarapa Valley?**
- 6. Please rank the water quality in Lake Wairarapa on a scale from 1 to 5. (With 1 indicating poor water quality and 5 indicating excellent water quality)**

7. What is your understanding of the resource consent process?

7a. Are you aware that the barrage gates have a resource consent and it expires in 2019?

8. Who else would you recommend we interview within the Lower Wairarapa Valley Development Scheme?

Thank you very much for taking the time to complete this interview. Your feedback is valued and very much appreciated!

APPENDIX C: Farmers Affected by the Scheme Interview Scheme

Note Taker: Breanne Happell
Question Facilitator: Elzani van Zyl
Observer: Elizabeth Walfield
Recorder: René Jacques:



We are working with the Greater Wellington Regional Council to determine the views and opinions of the Lower Wairarapa Valley Development Scheme in regards to the management of the barrage gates and Ruamahanga River Cutoff.

You are not required to answer any questions that may be asked and you may stop the interview at any time. Your participation is completely voluntary and you may withdraw any information you submit at any time.

Do we have your permission to record this interview? If yes then your answers will be recorded and may be used in the future.

- 1. Are you a Lower Wairarapa Valley Development Scheme rate payer?**
- 2. Are you involved in the management of the Lower Wairarapa Valley Development Scheme?**
- 3. What does the Wairarapa Moana mean to you?**
- 4. What do you know about the barrage gates and the Ruamahanga River Cutoff?**
 - 4a. Do you feel that the current management system of the barrage gates is fair to all involved stakeholders?**
 - 4b. How would you like to see the barrage gate and the Ruamahanga River Cutoff managed in the future?**
- 5. How has the Lower Wairarapa Valley Development Scheme affected the Lower Wairarapa Valley?**
- 6. Please rank the water quality in Lake Wairarapa on a scale from 1 to 5. (With 1 indicating poor water quality and 5 indicating excellent water quality)**
- 7. What is your understanding of the resource consent process?**

7a. Are you aware that the barrage gates have a resource consent and it expires in 2019?

8. Who else would you recommend we interview?

Thank you very much for taking the time to complete this interview. Your feedback is valued and very much appreciated!

APPENDIX D: Ngāti Kahungunu Interview Sheet

Note Taker: Breanne Happell
Question Facilitator: Elzani van Zyl
Observer: Elizabeth Walfield
Recorder: René Jacques:



We are working with the Greater Wellington Regional Council to determine the views and opinions in regards to the management of the barrage gates and Ruamahanga River Cutoff.

You are not required to answer any questions that may be asked and you may stop the interview at any time. Your participation is completely voluntary and you may withdraw any information you submit at any time.

Do we have your permission to record this interview? If yes then your answers will be recorded and may be used in the future.

- 1. What is your current occupation?**
- 2. Are you a Lower Wairarapa Valley Development Scheme rate payer?**
- 3. Which iwi and hapū do you identify yourself with?**
- 4. When did you last visit Lake Wairarapa?**
- 5. Do you partake in any recreational activities in Wairarapa Moana?**
- 6. What is the history of your hapū in Wairarapa Moana?**
- 7. What does the Wairarapa Moana mean to you?**
- 8. How have the flood protection methods affected the Lower Wairarapa Valley for you and your iwi/ hapū?**
- 9. How are you and your iwi/ hapū affected both culturally and economically by the flood protection methods?**
- 10. Please rank the water quality in Lake Wairarapa on a scale of 1 to 5. (With a 1 indicating poor water quality and a 5 indicating excellent water quality).**
- 11. What do you know about the barrage gates and the Ruamahanga River Cutoff?**

12. How do you feel about the current Lake Wairarapa water levels?

13. Do you feel that your opinions are incorporated into the current flood protection plan?

14. How important is flood protection in the Lower Wairarapa Valley to your hapū?

15. What changes would you make to the current flood protection methods?

16. What is your understanding of the resource consent process?

16a. Are you aware that the barrage gates have a resource consent and it expires in 2019?

16b. Are you involved in a resource consent application?

17. Who else would you recommend we interview?

Thank you very much for taking the time to complete this interview. Your feedback is valued and very much appreciated!

APPENDIX E: Table of all Individual Interviewees

Interviewee	Stakeholder Group
David Boone	Lower Wairarapa Valley Development Scheme
Ranjan Cyril	Lower Wairarapa Valley Development Scheme
George Harley	Lower Wairarapa Valley Development Scheme
Wayne O'Donnell	Lower Wairarapa Valley Development Scheme
PJ Devonshire	Ngāti Kahungunu
Marama Fox	Ngāti Kahungunu
Tai Gemmel	Ngāti Kahungunu
Charmaine Kawana	Ngāti Kahungunu
Henare Manaena	Ngāti Kahungunu
Matt Paku	Ngāti Kahungunu
Nelson Rangi	Ngāti Kahungunu
Frances Reiri - Smith	Ngāti Kahungunu
Rawiri Smith	Ngāti Kahungunu
Carlene Te tau	Ngāti Kahungunu
Matama Te Tau	Ngāti Kahungunu
Tirau Te Tau	Ngāti Kahungunu
Haami Te Whaiti	Ngāti Kahungunu
Ngaere Webb	Ngāti Kahungunu
Alex Webster	Ngāti Kahungunu/Farmer
Bernie George	Advisory Committee/Farmer
Bob Green	Farmer
Brad Gooding	Farmer
Mark Lovett	Advisory Committee/Farmer
Charlie Mathews	Advisory Committee/Farmer
Gerard Vollerbredgt	Advisory Committee/Farmer

APPENDIX F: Manager of the Lower Wairarapa Valley Development Scheme Interview Transcripts

Interviewee: Manager 1

Interviewer: Elizabeth van Zyl

Notetaker: Elizabeth Walfield

Observers: Elizabeth Walfield and Elizabeth van Zyl

Location: GWRC Masterton Office

Date: February 15, 2016

Transcriber: Breanne Happell

First off we just kind of wanted to know what is your position within the Lower Wairarapa Valley Development Scheme?

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We also just wanted to know are you a Lower Wairarapa Valley ratepayer?

No.

So just to show us more of like your connection possibly with the area, what does the Wairarapa Moana mean to you?

The, the name?

However you'd like to interpret that.

Ok. So it's hard to put context around Wairarapa Moana then, because in some people's minds it's a site that might have geographical boundaries. And in other people's minds it's a place where a whole lot of things happened historically in which there are blurred boundaries. So I like to sort put in those two, that it is a location that can expand or shrink depending on who you talk to where a whole lot of stuff happened historically in New Zealand's history between Māori and Pākehā, as we're called. So you're familiar with that name?

Yes.

Where the resident Māori at the time got a raw deal, essentially. But, sorry going back it was a place where the Māori of that time used the lakes and the way that lake Onoke closes to the sea as a tuna, or eel fishery, and they traded those eels all throughout New Zealand so they got a name throughout New Zealand as trading enterprise and they, held no regard for that. So when Pākehā arrived and then settled and moved away from Wellington harbor over to the Wairarapa for obviously pastoral farming there was quite a bit of manipulation that happened with the local Māori. And in the end they lost that land and Mangakino... have you seen Mangakino?

No.

It's in the central north island. It's on a volcanic plateau where there are volcanoes, and the time that they were allocated land the land was ... you couldn't farm them it was deficient in certain minerals and it was land locked, there was no roads in there. And the worst thing though was that they put one Māori

from this part of the country into the area of another Māori, another iwi which was the worst thing they could have done, basically chop their heads off, give them no power. So there all somewhat a one way turnaround when the government went and put roads in there to develop a hydro scheme and very close to that they identified what minerals needed to be added to the soil then you saw the Wairarapa Moana Incorporated business setup and they run a number of dairy of farms up there with their own dairy factory and it's just blossomed. So that investment now is now spinning back to Wairarapa Moana here where they can use the money coming out of that to sort of further there, I guess, future of the local Wairarapa and the Wairarapa Moana. So that's sort of a story. So I'm connected both to the history of it. And I guess trying to right the wrongs. But also with the Lower Valley Development Scheme it became a center for agricultural production as well so what the former Wairarapa catchment did down there was turn a whole dune country and swamps and everything into major dairy land. And some of its good and some of its bad cause now were trying to reclaim it back to before it became a dairy farm. So it's an ongoing story per say. Which is sort of interesting.

We also wanted to know what you specifically know about the barrage gates as well as the Ruamahanga River Cutoff?

Ok, so as part of the Lower Valley Development Scheme in the late... mid to late 60s they looked at how they could reclaim the land, which was wetlands in those days, peat and bogs and swamps they had no value, which we now know is completely wrong. And part of that was trying to use the lake as a flood retention damn, so they could take peak flows off the river, and put them across into the lake, and they had to have some way of plugging the lake and that's where the barrage gates came in. So they use that with their radial gates to an overland flood pass to capture the big floods, close the gates, let the peak flow go down the Ruamahanga River and through Lake Onoke and out to sea, and then open the gates and let the level go down. So that's the sort of basic principle. It's got quite a lot more complex now in that, when the Lake Onoke closes you can, we can actually open the gates and water flows back up the hill such that it happens, but it does. So at the moment for example the Lake Onoke is closed.

We were on the, we were on the on the spit a few days ago.

Oh yeah? Right. And so you see the levels starting to rise cause there's still water flowing down all the rivers. And then it gets to a point where Lake Onoke is higher than Lake Wairarapa, so you can to take the pressure off the stopbanks if its windy, you open the gates and get water to flow back into the lake and you can close them, build the head up in the lake, and then try to open up and then use that head to like, it's quite complex the difficulty you've got with the barrage gates is the resource consent, which sets very, very tight limits on what you can keep the levels at during certain seasons. And we've found it's almost impossible to comply with that. Because if you have nor' westerly winds, like we have at the moment, you can get up to a meter in setup between western side of the lake and the eastern side, and it will push the lake like that. By a meter. With the waves and were trying to work on little 30 cm [rocks]. It's impossible. Looks good on paper but nature says otherwise.

So with the management of the barrage gates do you feel that the opinions of all involved stakeholders is fairly incorporated?

I do. Well it was. It's going back and of course we've got a renewal coming back in 2019. So, that story I told before about Wairarapa Moana incorporated, the iwi coming back and trying to sort of stake a claim down there through the treaty of Waitangi settlement process. We're going to have a complete

different set of ideas and views about what the barrage gates should look like and how they should operate in the future. There's going to be a part of iwi Māori were saying actually we've had this claim resolved, got money, we should, you know, use the economy to make more money for our future generations through scholarships, etc. and there will be other parts of the same Māori who are saying actually no we should be trying to revert the lakes back to what they were i.e. wetlands and sort of like that. So you're going to have a bit of a conflict and we're in between. I mean were applying for the consent to operate a gate, gates. There's a whole lot of potentially conflicting views about what the future of that whole area looks like. You'll get all this when you interview people.

I mean I don't think we've actually realized the, the difference of opinions yet of the different, hapū that are in the area. I mean we will be talking to them but I think I just hadn't put that together yet. So we just also wanted to know what your, what the primary concerns would be with managing the barrage gates, or currently your primary concerns?

Well I've mentioned one, and that's trying to comply with the seasonal variation of climates and the consent, which is essentially impossible. The other one that we have difficulty with is opening the gates at certain times to allow fish passage but the consent doesn't actually allow that to happen there's restrictions on the heights and so forth so we've tried to negotiate with the consents people and say well look, if we've got a blocked Lake Onoke then the fish will come back, will try and come back that's the time we should be opening to let them go back in there, but the consent specifically restricts it, doesn't allow it. So these are the things that we should be able to resolve through the consent renewal process, a much more flexible arrangement I believe. But one of the other things that we've got in terms of running the gates, which is concern, is liquefaction. So we've got a big ton of concrete and steel sitting there on basically sand. And we've got the main Wairarapa fault line only a few hundred meters to the west. Now if we have a major movement on that fault it could easily move in which case, potentially worthless. So now I think our insurance is about 35 million, so it won't be easy to replace. Be a long time perhaps so we've got to do all that as well, do risk management.

Ok then if you have to rate, rank the water quality of the lake where one is poor and five is excellent where would you rank it?

Oh about point 8. No, it's low. It's eutrophic basically. And not only the quality but what's in it in terms of fish species: a lot of pest fish, you know, like there is a bit of a view, falsely so I believe, that historically the lake was this clear blue water, which is rubbish cause it's a very shallow lake and it's got a sand mud bottom. So with the north easterly stirring it up it was always going to be a cloudy, dirty lake. But now if you look you've been there obviously, so you've seen all the dune sequences to the east of the lake? The farms and over the hills? Well, that's basically sand dunes, and they were blown there when the lake was basically a puddle in the middle, in summers past, and the north westerlies had removed all that sand to form those sequences. So it's always been a high variable lake in terms of size and scale and depth. But I think even when we hold it at, say, average levels it's still only two, two and a half meters deep at its deepest point. That's very shallow.

And then you've obviously mentioned the changing in the environment such as the wetlands that are now gone because of the scheme that has been in place and the different flood protection methods but are there any other effects that the scheme has had on the Lower Wairarapa Valley?

Well it's introduced a type of farming which has had a big impact on water quality. So as a result we've seen those wetlands either disappear or be degraded. So general decline of water quality of the lake, and the introduction of pest fish. So New Zealand has this weird kind of historical connection to mother England. Where people would come back here and bring bits of mother England or wherever they were from with them. The US would be full of this I expect. It's not new to you. So we've had what's called fish or coarse fish which are tench and perch and rudd, and types of fish that they love in the UK fishing, but which are pest here. And they were allowed to bring them out here and of course they've eaten everything that we have native and they're terrific breeders so the lake I think is filled with perch, so we've lost a lot of, actually I don't know what we've lost, but it was a major. Ok, so let me think, what's another word for that fish, whitebait?

Yeah.

Alright, ok, so it's related to whitebait. So they had these perch have probably eaten a lot of whitebait we've also lost a lot of the habitat for inanga, whitebait, as well as tuna. So that's a major issue and, and I expect it's an issue for iwi post treaty settlement about do they want that habitat to be reinstated back to say commercial eel fishery. It's potentially viable using that lake as a habitat for them.

So that's all of the questions that we have. Thank you.

Interviewee: Manager 2

Interviewer: Breanne Happell

Notetaker: Elizabeth Walfield

Observers: Breanne Happell, René Jacques, Elizabeth Walfield, Elizabeth van Zyl

Location: GWRC Masterton Office

Date: January 18, 2016

WAS NOT RECORDED

What is your position in the management of the Lower Wairarapa Valley Development Scheme?

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Are you a ratepayer to the Lower Wairarapa Valley Development Scheme?

No, I live in Masterton.

What does the Wairarapa Moana mean to you?

Immigrant to New Zealand – Scottish (5 years) – wife and family from south Wairarapa – important place – becomes more important as time goes on – sees sacred value in it – wants to play value in improving environment – flood protection improvement – sees competing interests – scheme set up with economic interests – trying to balance other values (cultural, ecological, etc) – been involved with Ian since he started – improving water quality – project to divert water back – longer retention period to clear water before it goes into the lake – Matthews lagoon – drainage artificially lowered through drainage – trying to send on longer path to clean the water more

What do you know about the barrage gates?

- When it was put there
- Why
- Challenges
- Cutoff
 - Not as familiar
 - Seen as inefficient at the time of creation
 - Trying to improve biodiversity/ecology in the cutoff
 - Stagnant “yucky”
 - Get some fresher water in there
 - His understanding that the local iwi
 - Might have ideals of reintroducing the cutoff to the river
 - Doesn’t know all the details

Do you feel that the opinions of all stakeholders are incorporated into the management of the barrage gates and Ruamahanga River Cutoff?

- Stakeholder involvement
 - Not sure
 - Cutoff management
 - Gates
 - Have to be consented
 - Think it was back in the 80s

- Since creation there have been more efforts to seek feedback/ consult from all parties
 - Landowners
 - Iwi
 - Interest groups
- Gates operated to certain criteria
 - Flood risk
 - Maintain water levels at certain parts of the year
 - Fish passage
 - Could be/will be improved in the future
- More focus on the landowners that get the benefits from the flood protection

What are some of your main concerns when managing the barrage gates?

- Gates
 - Keep level low enough to avoid large flood
 - Be able to handle the flood
 - Open gates to release pressure
- Spit
 - Susceptible to being blocked
 - See conditions
 - Southerlies build up gravel
 - Closes spit
 - Raises water level in Onoke
 - Tests flood protection
 - Gates play important part in reopening the spit
 - Close gates to build level in Onoke
 - Water level can force reopening
 - Economic development would be diminished without the gates
- Challenge in balancing those things
 - Number of environmental factors
 - Wind
 - Sea
 - Rainfall
 - Need to work out if there is enough water to open the spit
 - Work he's doing
 - Focused on foresight for the future
 - What do they need for the future
 - Modulate the opening of the gates to be more smart
 - See if options are feasible/ practical
 - See if they can accommodate more aspects

What affects has the Lower Wairarapa Valley Development Scheme had on the region?

- Affects scheme has had on the region
 - Diminished flood risk
 - Financial
 - Economic benefit
 - Land owners directly benefit
 - Larger picture of economic benefit
 - Personal safety

- Increased safety to personal property
 - Livestock
- Negative
 - Greatly reduced wetland areas
 - Pumped in more nutrients to the lake
 - Super trophic

If you had to rate the water quality in Lake Wairarapa on a scale from 1 to 5 with a 1 being poor water quality and a 5 being pristine water quality where would you rank it?

- Water quality
 - Rating
 - 2
 - If not 1
 - Thinks it's very poor

What do you know about the resource consent process?

- Recourse consent process
 - Fairly familiar
 - Apply for consents for other things
 - Currently expired or expiring

Interviewee: Manager 2
Interviewer: Elizabeth van Zyl
Notetaker: Elizabeth Walfield
Observers: Elizabeth Walfield and Elizabeth van Zyl
Location: GWRC Masterton Office
Date: February 15, 2016
Transcriber: Breanne Happell

Are you a ratepayer to the scheme?

No.

How are you involved with the management of the Lower Wairarapa Valley Development Scheme?

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What does the Wairarapa Moana mean to you?

The Lake Wairarapa and the Lake Onoke and all of the wetland area in the vicinity.

Do you feel that the current management system fairly incorporates the views of all the stakeholders involved?

Yes is the short answer, but I think that there is a legacy of the scheme which is quite old, the scheme set out to change the landscape and it has been quite successful at that, and having the concept of the scheme being derived in the 1960s if not a bit before that, things have moved on with the way that people value the environment, ecology and perhaps put a bit less value on land productivity. So I think that we do incorporate stakeholder views as best as we can knowing that there are some further changes that need to align with the way that people value Earth in the present times.

In the future are there any particular changes on how the barrage gates are managed that you might see or want to see?

I don't have any personal desires for the management to change. I think that I am quite happy to perform my role as working for a public service organization and I suppose I am happy to do whatever the community wants us to do. I think that the barrage gates, I am sort of shifting into a philosophical answer here maybe, but the barrage gates are a temporary structure, even if they are there for another 50 or 100 years, short term in terms of environmental evolution and their impact on the Lower Wairarapa is going to be a short moment in time in terms of the historic period of the area, so I think that their significance is rather minor in terms of the long term perspective of where we are going to be in 1000 years.

What do you think of the water quality in Lake Wairarapa?

I understand just from information available that it is not that good. I question what it would be like in a natural state, if it would be better or worse, and I don't know that anyone really comprehends the answer to that.

Do you have any opinions on how effective the fish passage is through the barrage gates?

It's more effective than not attempting any fish passage at all but in terms of improvements that could be done, it could be done better, in terms of timing, procedures, and the actual physicality of it, at what depth and if we allow the water to pass, understanding what species are there and what velocities they need to move through, and I think we could do better is my gut feeling.

Thank you.

Interviewee: Manager 4

Interviewer: Elizabeth Walfield

Observers: Elizabeth Walfield, Elizabeth van Zyl, René Jacques, Breanne Happell

Location: GWRC Masterton Office

Date: February 15, 2016

Transcriber: Breanne Happell

So, you know, barrage gates made for something. So that's basically, you know, three functions, I would say four functions, these normal, normal operations. When I say normal, there is no flood event, and also this is the lake, this is the outlet to the sea, and this gets blocked periodically, in fact right now it is blocked, and, and somebody's down there, you know, opening it right now.

Oh really? Cause we went there recently in the last, like earlier this week, yeah and it was blocked. I think they told us if it was blocked on Thursday, and it's still blocked...

We can see it on the computer, you know. We have a camera there, so right now if you come to my place, you know, desk, you can see, you can see the digger operating. So, when I said normal operation, actually when that is opened the sea, and also when there is no flood event. And, you know, we have actually a resource consent to operate the barrage gates. So, the consent says that, you know, during four seasons we have a target level to maintain, so we either open the gates or close the gates depending on the inflow and outflow, and incidentally this part is, you know, very close to sea level. The lake level actually that we maintain is very close to the lake [sea] level. So depending on the level of water, the water can either flow outward or inward as well, you know? So we make so that function later on, I will show you, so that is, when there is normal operation, and the other operation when that is set when the mouth gets blocked and normally this gets blocked, you know. If you look at the bigger picture, you know, if you look at the bigger picture, the lower part of the north island here is like a big bay. And you have very steep hills on either side. So most of the material that comes here, or not most, all of the material that comes here basically comes from these two hills. Because they are like, so you have been to the spit here?

Yes.

You have seen that it is coarse material?

Yes.

Normally the Ruamahanga River carries only silt, you know, like, like this brown color from the flood event or the times, you know, so all this material gets, you know, flowed into the sea and with the southerly swells it comes and lands here in fact that's how in the first place, you know, I mean thousands of years ago how this spit was formed and Lake Onoke was formed, you know, and there this low flow in the in the river and combined southerlies it flows this material back here and gets blocked so, so, you know, it's blocked like this we normally put a bulldozer or in fact these days we use diggers and then, you know, we open it but then in order to do that the sea conditions to be right because if the seas raw it is too dangerous to put a bulldozer, you know, because the material is so mobile, you know, and when you put a, you know, machine working and water it tends to act like quicksand sort of thing, you know, so, the digger doesn't have traction so, so for health and safety reasons we have to monitor that and also we need to the on the lake side or the river side, so that what we do is, you know, we

make a pilot cut and then because the material is so mobile we let the, the river the water do the rest of this and it opens up the size. So, so that when there is a blockage what we do is, you know, we close the gates and allow the water to build up here and then then build that head as needed but as a safety there's too much rough sea we can't open and all and if it is too high and especially with the wind effect it creates a lot of wave damage or waves and that wave damage the stopbanks here so therefore we have to control the levels, you know, within a certain range.

So when it gets too high you're saying that the waves happen to hurt the stopbanks?

That's that yeah cause it is quiet wide, you know, it's about 200 meters so with the waves with the wind can create quite a lot of wave so when that happens if we can't open it immediately then we open the lakes and let the water back into lake Wairarapa so that second function so once the, the lake is open, you know, all this blockages is cleared then we open barrage gates and then, you know, let the water out so that's second function of the gates and the third one is when there is actually a flood event and, you know, as I said earlier all the flood waters used to go into the lake and then when out there so there's a reason why, you know, that large areas were flooded, you know, because it is quite as I said it is quite a low lying area, you know, and the water gets high, you know, it spreads quite large area so now because its stopbank, you know, and its blocked there and so what we do is, you know, we close the gates and let the flood waters go straight down to sea and in addition to that of course, you know, there is a floodway system overland floodway system, you know, which is like a safety valve for the system so when there is when you see flood you know, there are there are what you call sills basically a lower stop bank, you know, with the shallow so its over safely so it goes through this floodway so it doesn't go and gets stored in the lake, Lake Wairarapa, you know, and once the flood peak is past then we open the gates and then let these exits water out. So that is the third function of the barrage gates and the fought one is actually to the operated two natural gates the two far ends gates number one and six for one hour at high tide or low tide depending on the seas facilitate fish migration. So that is basically the operation of the barrage gates. So these are photos of, you know, this how, you know, these very, very so, you know, you had to have the conditions right and we can monitor all that from our office here, you know, the wind conditions the sea and the levels and all that other thing and we have a contractor, you know, who we engage.

So for the first question, I know you are very involved with the Lower Wairarapa Valley Development Scheme so could you go into a little bit more detail like what your exact position is and what that entails?

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Are you a Lower Wairarapa Valley Development Scheme ratepayer?

No.

And then what does the Wairarapa Moana mean to you.

Ok as you know, when you say Wairarapa Moana it's basically the lake and the system here, you know, so as I explained earlier this is a key part of the lower valley scheme, you know? Again I am speaking from an operational perspective, you know? So it is it is needed for to manage during flood times and also during lake blockage times so it is a very important part of the lower valley scheme.

Do you feel that the current management system of the barrage gates and the river cutoff is fair to all involved stakeholders?

I think so, you know, because, you know, one thing is, you know, as I said, you know, we have a consent to operate it, you know, and that consent has been you know, granted after consulting all of the stakeholders, you know, anyone who has an interest like fish and game, iwi, doc landowners and the lower valley scheme advisory committee district council all the people who are involved and it's a very lengthy process actually and therefore I think that what has been established is, you know, I mean ok a lot of values here, you know, like, I'm just talking about the operational perspective like for the landowners, you know, they want obviously the water kept out and all that sort of thing but then there are other users like, fish and game, you know, DOC who have different interest iwi have different interest so, I don't think, you know, hundred percent everyone's interest are served actually but it's a balance in, you know, so all in all I think it's fair.

Then what are your primary concerns when managing the barrage gates and the river cutoff?

My again, you know, my concerns is that oh my is, interests actually if you like is to see that the barrage gates are operated to minimize flooding and damage to this area so, some of the concerns I had was that, you know, we have again mentioned that yesterday as well, you know, that the controls and the equipment that we have there is very old, you know, its, it was, you know, in fact this was only when this was constructed it was basically like a semi manual not manual actually, you know, it's a its not automated at all there's a control room here somebody has to go there and then, you know, press the buttons to operate the gates up or down so that's how you did the basic controls when it was constructed but in the 90s, you know, some equipment were added and it was automated, you know, so, you know, you could operate it from Masterton here you could see the gates positions and that sort of thing and over the years to get reliability and all that, you know, number of thing were added but still the basic technology and all that was 90s, you know, as we had lot of a problems with, complying with the consent because for instance when the gates when you when you want to put down the gates for instance, you know, say that its going down but sometimes the gates are not completely fully down or it gives a wrong indication that it is up and instead is down and there have been occasion where because wrong signals go and then, you know, the gates automatically go up without our knowledge so because that you we have, you know, just going on that process now we have started that we are upgrading these controls with, you know, with the PNC and, you know, with the important gear so that, uh, we have, better control and, you know, we know exactly what is happening so, so that was my concern and, you know, and also, you know, the other one will be, you know, the consent that will come coming up for renewal in 2019, and we don't know yet what are the requirements from other stakeholders, you know, there are a lot of things that change since the earlier consent was granted 20 years ago and there are a lot of environmental awareness if you like, you know, like doc wants other things and a lot of people are trying to micromanage various things so therefore I don't know where that will lead into so that's a general concern from an operating perspective.

So I know you, originally pointed out the pre-flood extent and 50-year flood extent but are there any other effects of the Lower Wairarapa Valley Development Scheme that you wish to talk about?

Ok this is like a, if you call a live scheme actually, you know, I mean it's not a scheme that you can just construct and walk away really because, there are a lot of things happening, you know, because of nature for like instance originally when this was constructed it was construct, you know, this part was

actually had a certain a certain standard but with a lot of building up you know, it has reduced the standards some so, so that is one thing that is affecting plus when they originally constructed the stopbanks they, you know, they constructed it too close to the river edge so it's very difficult to, you know, make the flood damage and all that, you know, so we are now going to embark on what you call flood plain management plan for the lower valley scheme, which you can't not totally and, river operations side but also all the other activities like recreational, you know, what community needs, you know, then what the iwi the doc and, you know, their needs and all that sort of thing so one of things that we are looking at is actually is to improve the system which means to shift the stopbanks out and, and have a and also the other thing is the stop bank system is not uniform somewhere there is ok but someplace to make it a little more uniform but there is going to be a huge cost actually so it will be a challenge actually to get funding, you know, because the funding for this this part here is and this is actually basically agricultural area so it's different to like the Hutt on the other side where its more urban of course you have a higher standard there because any damage you, you know, the huge damage to the infrastructure there but at the same time there is a lot of money available on that side whereas here it's a its a is sort of a low budget so we have to actually all this, stopbanks and all that constructed to a sort of a rural standard instead of a urban standard so that is, you know, one of the things that we have concern actually.

So if you were to rank the water quality in Lake Wairarapa on a scale from one to five with one being poor water quality and a five indicating excellent water quality, how would you rank it?

Ok I'm not an expert on that but when you say when you are saying the water quality, uh, now yesterday there were some people talking about, you know, so if you would have heard, you know, when you are talking about water quality actually you need to really be careful in the sense that, you know, you can't take a snapshot now and say ok the water quality is good or bad you have to see how it was, you know, like it was pre-scheme and whether there is, you know, how it was at that stage and then how we see it now because also quality can change due to various factors like, cause the farming operation, you know, there be a lot of nutrients going into that at the same time there a lot of silt that goes into, into this area as well so before the scheme, yeah normally you get huge amount of silt, you know, like see the color, you know, this is during a flood event and you can see between the sea and the, you know, and of course you can see these large areas it gets a brown color because of the silt so before the scheme all of these flood waters used to go into Lake Wairarapa and then, you know, went out so there was huge amount of silt that went into it. So now what happens is during a flood event, you know, we close these and most of the waters goes right down here and only the floodway, you know, the excess water that comes over that goes into the lake, you know, like these that, is floodway here somewhere here overland floodway that goes into the lake so it is very difficult to say what the and, another factor that I believe affect it the silt especially was that due to pre-scheme time during summertime the lake level used to go very low, you know, lower than now so when that happens there's a lot of silt and, you know, sand gets blown out and that I believed is how some of these, you know, you get some of these, you know, hills here, you know, sand hills so formed, you know, natural process of removal of sand, you know, although but now it's less silt that goes into it but then because we are maintain the lake levels at a higher level during summertime you don't get that to blow it off so it's very difficult to say whether it has, you know, improved or detreated or normal but just looking at from a like compared with another, another, you know, water quality like wellington harbor for instance

I would say that the quality is reasonably poor so you would 1 to 5 I don't know maybe around 2, 3, you know, that range.

APPENDIX G: Ngāti Kahungunu Interview Transcriptions

Interviewee: Ngāti Kahungunu 1

Interviewer: Elzani van Zyl

Notetaker: Elizabeth Walfield

Observers: Elizabeth Walfield and Elzani van Zyl

Location: Ngāti Kahungunu ki Wairarapa Building

Date: February 2, 2016

Transcriber: Breanne Happell

So what we are particularly focusing on is the barrage gates and the Ruamahanga River Cutoff, so all of our questions will be centered around that.

So what are the gates, tell me about those.

So the gates are kind of like a dam system that's attached to Lake Wairarapa and it stops the water from flowing straight through to Lake Onoke.

Is that what they did? Is that what they call it? Bastards, BASTARDS.

So we just want to ask you a few questions, you can stop the interview at any time

Oh no, I'm good, get me on record, and publish it back to Wellington Regional Council

So first of all we just wanted to know what your current occupation is?

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Are you a Lower Wairarapa Valley Development Scheme ratepayer?

No.

If you had to choose an iwi and hapū that you...

Kahungunu.

And do you have a hapū?

Yes, Ngāti Moe, Pehnu and kai pharupharu (sp.).

And when did you last visit Lake Wairarapa?

3 days ago.

Do you partake in any recreational activities on the lake?

I'd like to, it's very difficult now they've cut in half and drained it and make it pretty difficult to do anything on the lake, but yes and no.

Could you tell us a little bit about the history of your hapū in the Wairarapa Moana?

So Wairarapa Moana in its heyday it was reputed to go all the way to Greytown, or Greytown would have been underwater Pirinoa was on the shore of the lake, the marae that's there and Featherston would've been sort of underwater and just at the foot of the hills there would have been times that it was underwater and times that it was fine So it was this huge lake for this entire country and they call it pharua tika(sp.) So the North island is called the Te Ika-a-Māui and the legend that our people, not legend that our people say is that Maui fished up the North Island and that it was a fish and if you look at it it's sort of shaped like a flounder fish, and the head of the fish is Wellington region and the eye of the fish was our lake, which now is two lakes and the river has been diverted away from it and they've pushed out the sand bar and now sand is building up in the lake bed of Onoke, so there are people who want to be able to sail our waka across the lake, so Lake Ferry was called Lake Ferry because they used to ferry stuff across the lake from one side to the other. So if you imagine, now we drive up the Rimutaka hill and over to Wellington but back in the day if the lake was as huge as it was they needed to have to ferry their stuff over and then go around Evan's Bay or around the point into Wellington to put things on ships and get them out. So it was the ferry place the place where they took things across, well they tried to take a waka, just a very low waka, the hull would sit in the water just a meter and a half, couldn't get it across because of the sand buildup. Because they have now pushed out the mouth, and it tries to back itself up, like it will close up every so many years but then people will go and push it out again with bulldozers and stuff, and so now sand is building up in the bed of the lake and smothering the sea life and all that sort of stuff. So our people used to take 20 ton of tuna out of the lake every second year and that was sustainable and it was also the migratory path for eels to go back south of Tonga I think, where they spawn and they come up the Hikurangi Trench back up through the lake back up into Wairarapa valley. So when I first met my husband our first date was eeling, and we'd go right strolling down slippery banks in the middle of the night, as scary things clinging to each other, anyways we got maybe half a wool bail of eels. And now if we went out eeling we would be lucky to get three or four or five. The decline in my lifetime has been huge but since the day when the lake was in its pristine condition its decline must be immeasurable. So those sorts of things, we traded in eel, and we have found rock on the Wairarapa coast not far from the lake, just around the corner from Lake Ferry, in that area we found rock from the Australian coast line, so that rock is not actually found in New Zealand so the deposits that we found around the remains of the archeological digs actually came from Australia so our people were travelling around the Pacific trading and one of the things that our family from Wairarapa traded was dried eel and it's a delicacy. So one of our quiya(sp.) she said that she gave a submission to the Waitangi Tribunal when we had our land claims in 2004 and she said that when she grew up she grew up in a farie(sp.) with a dirt floor, and that every morning they would go to the river, the Ruamahanga, and catch an eel for breakfast, and wash, they had places where they did their wash, places where they did their clothing, and places where they caught the kai and places where they cooked so they would go to the river in the morning, catch their eel, and cook it,

and that was their daily routine before they went off to school. Well she is passed on now, and that was 12 years ago, and at the time she would have been well into her 80s so she was talking about 90, 95 years ago. The thing about that is that even though we are not all the South Wairarapa people we are all connected to that lake because all of our rivers used to flow into the Ruamahanga which flowed into the lake and then back again. So there is a place in the Tararua Ranges where there is a spring where 5 of our rivers come from and each of our rivers but one flows into the Ruamahanga, and they all go down to Wairarapa Moana and now it has been blocked off, the lake has been split in half and now they call it Lake Onoke like it is a whole new lake now like it has a new name but actually we look at the lakes and we call it all Lake Wairarapa Moana, it was all one, but people go oh that's not Wairarapa Moana, that's Lake Onoke, so now regulations or the impact of regulatory decisions that the regional council makes have changed the name of our lake and when we talk about Wairarapa Moana they go oh no this is Lake Onoke, but it's not. Anyways, so having those conversations with them about restoration, but there is farmland there now and people don't want to put the river back into the lake because it would flood all of the farmland that they make a lot of money off of, all of that sort of stuff but they are killing our lake and something needs to be done.

What is your opinion on how the flood protection methods have affected the Lower Wairarapa Valley?

Well my coya(sp.) who I worked in Kuanganua(sp.) with, which is early childhood language nest, so it's an early childhood center where only Māori is spoken and that's where I started in education in the late 80s early 90s so anyways the coya(sp.), so I asked her one day what does manawhatawai(sp.) mean, cause we talk about mana, and somebody has mana and it's their innate power, not just their power or their life force but the respect that they gain or give, it's the sort of essence that they give, so it can be diminished on circumstances. So she would say that every river had its own mana and so I asked her what that meant and was thinking at the time how does a river have mana and she told me two stories, one is that there is a stream in Wairarapa and it flows into Ruamahanga about it is at Greytown, at Greytown there are two rivers, and it's been hemmed in now, it's been banked up and given a course to run because those two rivers would overflow and flood that area around all of the time, so it has had all of these big stop banks put up all around it. She actually told me the story of how the Mangatariri(sp.) was a sacred place for our people, for when they were sick they would take them to the river and bathe them in the river and there was a pool that used to be there, but the stop bank measures have destroyed that, it's no longer there, but last year we went to some planting along the banks of the river and I was talking to people there and on one corner of that river there were three artesian springs, just one within 15 meters of each other, three little springs, and I thought to myself wow if there are artesian springs bubbling up into this little creek or all the way down it then it is no wonder that our people came here to bathe when they were sick, but the flood measures have destroyed that sacred place, that is no longer there and I can no longer take them there and so when people came and said we must protect the rangatiri and they want to put a dam on it, but they have already destroyed it, actually yes we can protect it further but your flood bank measures have already destroyed our sacred place, so good on you for trying to protect it some more but you suck. No they don't suck but that was

the first story she told me and then she told me about how despite those flood banks, and we try and control water by pushing it into channels so that we can utilize the land, and then we destroy the river through pollutants because of over use of the land so every so often, despite our best efforts the river will take back its course, it will burst its stopbanks, and go where it wants to go. That is the power of the river, the mana of the river. But not only that, see our people lived next to a fresh water source, they had to right, so if you say your pepeha in Māori, you will say this is my sacred mountain, it is normally the place that your people would escape to in times of peril, you know you go to your highest peak or your palace which is heavily protected, which is normally on top of mountains and kai would be growing in fresh water springs. But you would also have a waterway next to your marae. So our people lived on rivers, and without the water we would have perished. So the river is powerful and life sustaining, it will take its own course and no matter what we do to try and contain it, it wants to go where it wants to go and the interference of man is not helping our rivers, it is hindering it, so we have diverted its courses, we have planted bloody ugly willow trees along its banks, I was like do you see any willows in this country, put your bloody willows back into your own country, because sure you have to protect against erosion, but why because water will go where water will go, but if you want to use plants that are from this country in their native environment, some green person came down saying oh we are going to put mangroves down here to help, and I am like go and show me where you can find a mangrove growing here in South Wairarapa, why the hell would you do that? So don't bring your trees from the north down to here this is not the right environment, and I'm like you bloody greeny go and figure it out somewhere else, because no we don't believe in willows but now you want to put mangroves here? Just how dumb can you be? I'm not even a staunch environmentalist and I know better. Anyways so in the 60 years now that regional councils have allocated water, our government believes that water is not owned by anybody, that water cannot be owned, and I'm going well that's bullshit because you act as if you own it when you allocate it, and when you allocate it to farmers, agriculture, whatever, to people who want to bottle it and sell it, that's corporate welfare as far as I am concerned, when the pollution or the runoff from the corporatization of their farms or whatever destroys our rivers well that's benefit fraud, and if we then pay more money out of the public purse to fix that up well that's double jeopardy, these buggers get to allocate the water as if they own it and then accuse us of wanting more than we deserve as Māori and rights of water and they do it for nothing, they get that water for nothing. So that's a corporate benefit, they destroy the waterways through their corporate practices and then we fix it up again, there's a whole lot of people that act like they own it then destroy it and we have been observers of that for the last 60 years so we have been arguing with the government for 5 or so years about rights of Māori and water, because one we would like to restore it to its pristine condition and two we would like to be able to benefit from the water in a way that is sustainable, just like everybody else but actually you guys own it, you say you don't but you do and now you destroy it and you make all of these plans of what you want to do like plant your bloody willow trees and divert our rivers and take their natural ecosystems and biodiversity and all of those sorts of things that impact on river ways. So we fight for rights of Māori interests in water because we believe that that is the way of protecting the water and ensuring that other be held to account for their use of water as well.

If you had to rank the water quality in Lake Wairarapa on a 1 to 5 scale where 1 was very bad, or dead, and a 5 means that it is life sustaining, where would you rank it?

I think that it is at probably a 1 or 2. The issue is not just with the lake it's with all of the rivers that flow towards the lake, so some water gets into the lake, some doesn't, but it is also not flushed through, there is a lack of oxygen going into the lake, we have blocked it off from the sea so it was tidal as well, freshwater but tidal, and so all of those things have helped to destroy it, so our Masterton District Council, when they decide to make a new sewage plan for the township, they need to have new sewage ponds and a new sewage treatment, they have two options, one is more expensive than the other, that is to disperse it onto land which naturally filters, so it has been treated but then it is dispersed onto the land, and actually sometimes it's not treated because you get an overflow greater than the ponds can take. So the second option was to disperse into water, into our river, and so they took the second option, and so they are required to consult with iwi and we have told them that we didn't like it, that that's disgusting, and they said thank you for your opinion and did whatever they wanted to anyways. So that's why we fight for some things like the RMA, the Resource Management Act, for greater participation of Māori where iwi and greater regional councils must have participation agreements where iwi get to say which things that they want to have consulted, to be consulted on and to consent. So I just think that it is appalling that you would put your filth back into a pristine river. There was a dog that drank from the river at Odells' bridge which is about less than a kilometer away from the sewage ponds, maybe 400 meters, and died, a farm dog. So whether or not it's clean we don't know, we just can't trust it. But you look at it and it looks fine but then people get sick, like for years kids, when my kids were little for years we swam in the rivers around here, people would go ah there is something in the water because all of the kids have eczema bad, and then when we leave the area they don't have eczema. So things like stinging eyes, that sort of stuff for years and years until people go I don't know, there is something wrong, and we still swim in the rivers, but we have to drive all of the way to the top of the water instead we used to swim everywhere around Wairarapa. The river that runs through town here they used to sort of push the rocks up to make a natural little pool every summer and all of the kids would swim there and then at the end of town there was one swimming hole there, and just out by Odells' Bridge there was another swimming hole there, just on this side, there was swimming holes everywhere, you could walk to them because our town is surrounded by water, all of those rivers flow into the Ruamahanga and the Ruamahanga flows down into the Wairarapa, so the only water that it is getting through it is not good.

Do you feel that your opinions are incorporated into the flood protection scheme?

No, when did they ask our opinion, they could give a big crap about it, like I have had scrap with Irrigation New Zealand, which is not flood protection but these guys all sit together so there's Federation of Farmers, Irrigation New Zealand, Regional Councils, they are all inter-related, they are all trying to work for what, for greater corporate dollar, for a profit, so we have flood protection plans not just for cities but for farms and so those guys they don't consult with us. I mean Greytown used to get flooded out a lot, but it doesn't anymore, with all of the stop bank

measures, but the other thing that they do is grade the rivers, alright so they push and flatten out all of the rocks so that you don't get big holes or swimming holes and that way you don't get greater erosion so you get a better dispersion of water across the breadth of the river rather than running in valleys and sort of pulling away at the banks. But what that does actually dumb asses, is that actually you have lessened the depth of the water so you add to the algae bloom by heating up the water temperature, throughout the summer the water slows down, it runs really thin, the algae builds up and now it spreads all across the valley. Okay you're just a bunch of dumb asses.

What would you change to the current flood protection methods?

I don't know, the thing is that you have to have the discussion because the thing is life, land, or water really isn't it? But it's that evolutionary circle, you can't get life without water, but if you destroy our water you will no longer have any life right, so we keep trying to hammer in and change it and fix it to protect people that live in houses and farm around it but in doing that we are killing it. So if the flood protection doesn't also include, and I don't know what the plan is to be fair, but if the flood protection plan also doesn't include water purification or restoration than that plan is not good enough, because having it on its own does not fix up the degradation of the water, because you might be moving it away from settlements and farm land so that you can grow stuff, but you can't grow crap without water, if you are killing the water.

Thank you.

Interviewee: Ngāti Kahungunu 2
Interviewer: René Jacques
Notetaker: Breanne Happell
Observers: Breanne Happell and René Jacques
Location: Wairarapa Moana Masterton Office
Date: February 2, 2016
Transcriber: René Jacques

What is your occupation?

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So are you a Lower Wairarapa Valley Development Scheme ratepayer?

Well, I am a ratepayer with the Masterton district council, and I know that we do also pay a fee to the Greater Wellington Regional Council, and that type of thing. And therefore yes, money is spent on provision throughout the Wairarapa in terms of water protection, stuff like that.

We know that the lake is kind of, a lot of people consider it to be kind of dirty so there's not as much recreational activity, so do you know of any, do you participate in any recreational activity around the lake?

Yes and you're right. We used to have a yacht club down on the lake, and they were quite an active club, and there were quite a number of recreational users as well. The lake is not deep. It's not a deep lake. And so therefore there are a number of activities that you can't have on the lake, and it wasn't unusual to find people herding their stock across the lake, from the west side to the east side, so forth like that. But that appeared to be an acceptable practice during those days of moving stock across from one side to the other. But it was also used for people who were on horseback to ride from west to east, to take shortcuts and so forth. But there were only just some parts of the lake where you could do that. So there was a lot of recreational activity on the lake during those, probably round about the 60s it started to drift off, probably round the mid-80s I suppose, because there were a number of things that were starting to happen to the lake which didn't make it very conducive for a number of water activities. Fishing was quite healthy down there during those early times, so there used to be a lot of number of recreational fishermen, both on land and on the water as well. There used to be a great cultural practice there, way back in the early days before the lake had been transformed into what it is now. And so that's had a huge impact on Māori cultural fishing practices and so forth. Yeah. But the lake is quite putrid now. It's quite contaminated, quite polluted and we have a large number of pest fish if you like, introduced species that have had a huge impact on the native fish species down there. Huge impact, and still is, still is. So there's a big push now to try and clean all that up but I can tell you that it's not going to happen in my lifetime. It's just a huge job and there's a whole host of other things that need to happen and occur before we start looking at the lake itself, because everything does from the valley itself right down to the lake, so the lake becomes their repository if you like. But there have been a number of alterations and

things that have occurred down there that have changed the whole environmental landscape down there, with the lake.

What is the history of your family in the region?

If you understand how Māori society works, they have what are called subtribes. And some of those subtribes they live out on the coastal areas, and a number of them live inland. And so therefore they live within the environment where they live. And so therefore if they live down near the lake they have a very strong relationship with the lake, and they know, they understand the seasonal changes that happen and occur, and so they know how the lake behaves. And that also applies when you're living inland as well so you'll understand the seasonal changes so therefore my relationship here in terms of my family is that we have a relationship both inland and both coastal and both to the lake. So there's this relationship that we have, we don't confine ourselves to just inland. We have a relationship to those that live out on the coastal plains and a relationship with those that live around the lake and some of our other main waterways. And so therefore we have this interrelationship where we can travel if you like, around those other areas during the seasonal changes. And so that's been a cultural practice that's been in play since well before I came along, but it's one that we've continued to exercise. So it's an old cultural practice which we still continue to hang on to. But of course the relations now is, there have been a number of environmental changes that have happened and occurred which has had an effect on a number of cultural things that we do and so therefore we have to adjust to those changes as well. And whether we like how the landscape has changed for use well, it's just how it is and we need to fit in with it, and what it is that we can do to try and improve it, or to restore it. As I said it's been a job.

So what does Wairarapa Moana mean to you?

Well Wairarapa Moana as I said we all have a relationship to Wairarapa Moana. If you understand the beginning of time for Māori, as to how it is that they see things, and this is a Māori world view of how they see things. And I'm sure you've probably come across [it some] with some of the indigenous groups in the United States and so forth. But for us, if you understand the Māori story of how we came to find New Zealand, Aotearoa. Aotearoa was a fish, it was a huge big fish that was fished up out of the ocean by one of our ancient ancestors. And so therefore when he brought the fish to the surface it then lay itself out flat and became what is known as Aotearoa. And like a fish it has two eyes, it has a head, it has a tail, it has fins and everything like that. And so therefore the head of the fish is like the bottom of the north island. And they eyes of the fish is Wairarapa Moana, is the eye of the fish, and the other eye is Wellington harbor. And so therefore those are the two eyes of the fish, one is the freshwater eye and one is the saltwater eye. Now freshwater and saltwater, they have a very strong interrelationship with each other. And for Māori society it's the equilibrium that gives perfect balance, with both fresh and saltwater, the relationship that is around there so it's a whole historical, history around that. I can speak about it for days on end but you don't have that time. So therefore, how important is the lake to us? It's very important. It's very important in terms of our cultural beliefs, our cultural practices, and the importance of the lake in terms that

it is what we call the freshwater eye of Maui's fish. Maui was the ancestor, was the person who fished up, and you'll probably hear the story about a thousand times through everybody else. But so the importance of the lake for us here, those of us that reside in the Wairarapa, is that it is the eye of the fish and so therefore if the eye is blind it doesn't know where it's going. And so therefore when we talk about the contamination of the lake and it being polluted and all this invasive that's going on by way of introduced species, that it has a severe impact on the eye of the fish, from us, from our cultural beliefs and understanding of it. And so therefore when the eye becomes blinded, then those of us as a people, it has that severe effect on us as well. And so therefore when we talk about freshwater and saltwater, they are very, very important elements in terms of the, providing life that is essential to all of us, and how important the role that water has and nurturing that life. And the life is anything and everything and so therefore for us water has a spiritual value. Saltwater has a spiritual value, freshwater has a spiritual value, and therefore they have an interrelationship. They keep that perfect balance. And so therefore if the eye starts to become blind, then we're starting to get out of balance, and so therefore things that become out of balance tend to have a detrimental effect on us as a society, as a people. And how important it is to us? It's the life force for us. It's very important for us. So if the life force starts to die and that's who we are, we are part of the life force. And therefore we start to suffer as well. And so it's very, very important to us in terms of our cultural values, in terms of our cultural beliefs. And so is where this organization here, it basis it's whole practice on, its whole business practice on that type of those cultural values. So yes it's the life force and the life force is described as the Mauri, the Mauri is the life force of everything. But what it has as one of the key elements that provides that life force throughout everything. Throughout land, through the fish species, animals, me and you, the trees, the earth, the ground, rocks, stones, sun, earth, everything like that. And so therefore when you start to get this unbalance starting to happen in terms of what's happening to the lake down there, it has a role on [the] effect to all of us. And like I said in order to give it clear vision again is going to take a long time. Take a long time.

Could you go over a little more how the flood protection methods have affected the Lower Wairarapa Valley for Ngāti Kahungunu, your hapū specifically, anything?

Well the flood protection was a natural, well the floods, the annual floods they were a natural occurrence, and the annual floods then is how Māori lived within those changes. So then they knew how, they could tell by the seasonal changes when the floods were going to happen and occur. So therefore when the floods did occur, the floods had this flushing effect on the lake, because the rivers, the main rivers used to, all the tributaries, all the creeks, and all the streams and everything used to all, and all the major rivers, used to all flow into the Ruamahanga, which is the parent river, if you like, that flowed directly into Wairarapa Moana. And so therefore when the flood seasons occurred it used to flood right through the whole valley, and it used to have this flushing effect that used to flush out Wairarapa Moana, but there are a whole host of other things that happen and occur round those, around that flood period. Now that was a natural flood that happened and occurred and it happened round about the, I think it was round about October. And Māori used to call that flood period the Hungurangi(sp.) Floods. And they were huge big floods that used to happen and occur, and from some of the early

conversations from our, from our ancestors was that everything used to come down the rivers. There used to be huge, big rocks, boulders, trees and everything like that. And so therefore it used to dam as the floods came down they used to push everything down. And the rivers during those times from their conversations they were actually quite large rivers in their times. Very large. So therefore when all this debris came down, it sort of became a collective point for, you know became a resource and this is how Māori during those times used to make use of the natural phenomenon like the floods. And so then there was the man made flood, which was a flood that Māori used to deliberately make, that was by the closing of the mouth. That was down at the bottom end of Lake Onoke. And the reasons they did that was to, at that time it was what was known as the Tihikunga(sp.) Tuna. This is when the eels, the tuna used to start their migration, their migration back to the pacific islands in order for them to spawn. And that used to be a huge cultural practice for all of Wairarapa Māori because during that migration when the eels started to migrate, you go to understand how eel, you know they had their own social order. There were different many species of eels but they all had their social order as to how they began their migration. And there was one species of eel that would start their migration first, and the other species of eels would let them go first. And then there would be the other species of eels that would follow them. So they had their own social order as to how they would start their migration. And so therefore when they all would gather down to the lake, Lake Wairarapa which is, this is the importance of the lake for us, and from early conversations the lake, you've seen the lake obviously? Well the lake is only really a third of the size of what it is now. It used to be quite large. And of course it used to grow in size during the annual flood. It used to grow in size and with the manmade flood which was used to grow in size again. But it was done for a reason. And therefore the lake used to be a swarming mass of eels. Absolute swarming mass. And conversation was that the lake used to turn black. And there were so many eels in there that it used to create this big swarming mass of frothy water that used to boil and looked like a whole cauldron of water, there were just so many eels. And of course if you have a look at that photo behind you, that's Lake Onoke there, and so therefore where you see the mouth there, which goes out to Palliser Bay, they used to dam the mouth, they used to deliberately dam the mouth, so that therefore they used to trap the eels. But the eels because they had this built in time clock thing, they just had to migrate. And so therefore when they got down to the lower end of Lake Onoke there, and the waves would crash over the sandbar, the eels could smell the salt. And they would be, they would become very, it would just be a mass frenzy of eels. They just had to get to the water. And as the sea spray came over the bar and drifted across the Lake Onoke there they would go absolutely crazy. So therefore it wasn't unusual to find eels crossing, going across land to reach the water, the saltwater. And they would be incited to do that, it was just their natural being of wanting to reach the ocean, and start their migration. And so therefore Māori used to catch the eels, used to trap them. And they would spend however long period down there, catching eels and going through a process of drying them and storing them and so forth like that. But there were literally hundreds and hundreds of eels that would, but because they were, they could smell the salt, and it wasn't unusual to just find hundreds and hundreds of eels moving across land, across the bar, to cross the bar to reach the sea. And once they got there well that was when they commenced their migration. And so we had a story around that, about the different guardians, if you like, that look after the eels during their migratory period, when they make their way

down to the lake and when they then make their way into the sea. And a number of those gods, if you like. That's how we describe them, as gods, they take care of them. Once again we're looking at the equal balance of freshwater and saltwater again. So there are these particular gods that play pivotal roles in ensuring that there's an equal, that we maintain an equal balance of the environment. So the eels, that's their natural migration, that's their natural built in time clock, if you like that they have to do. And so therefore the gods play a role in ensuring that they do reach their goal if you like. And once they have made their way out to sea then there is another god that takes care of them. Because none of eels, they migrate down to the Pacific islands where they spawn, once they've spawned then they die. But it's the young babies then that migrate back to Lake Wairarapa. And so for us that return is the commencement of the next generation. So for us it's a generational thing. It doesn't stop at the red light, it's going on all the time. And so therefore this is how we maintain a spiritual balance if you like, the Māori, to ensure that everything is in perfect sync with each other. And so the importance of the lake, at that time, very important to use, but of course now when we had early colonists they started to settle within the Wairarapa they saw Wairarapa as something different in terms of how Māori look within the environment and so forth like that. They then brought new technology if you like. They brought grazing, pasteurization, pastoral grazing, farming and that type of thing. And so therefore they saw the lower end of the valley during the calm period if you like just how fertile the plains were down there. And the land was very fertile down there. And so therefore they could plant a huge number of crops and use them for a huge number of agricultural uses. Which for Māori was just something entirely different, they had never seen anything like that before. And so therefore they saw it as a cultural practice now being interfered with by the introduction of some other land use practice, which was completely foreign to them. And so therefore those early arrivals that settled within the Wairarapa knew that the flood periods were a hindrance to their agricultural practice. And they knew then that if they could control the flooding then they could gain something like 40,000 acres of fertile land for other productive uses, for other agricultural uses. And so then that is how it is that they controlled that, how it is they controlled the flooding. And how it is that they controlled the man-made flooding that was exercised by Māori for their cultural practice of catching eels. And so therefore this is what, the whole transformation that has taken place in order to allow the early settlers, in order to allow them to gain sufficient land, extra land if you like, in order for them to continue with their introduced practice of land use. And so one of those practices was to divert the Ruamahanga River away from the lake. Because once everything sort of stock piled into the lake, this is when the lake started to sort of grow in size... and started to flood all the low lying areas, around the lake area. So if they diverted the river away from the lake it would eliminate that problem. So then the flood waters would go straight into Lake Onoke and straight out to sea. So that was what they did, they diverted the lake, against the opposition of course. But then again there were a number of legislative acts that allowed that practice to happen. And part of the diversion was to build a number of sufficient stopbanks, flood protection work that would allow any excess water to be drained away from any low lying areas, around low lying flood land areas. And so that's where the diversion came through and went straight into the Lake Onoke and straight out to sea. There were still a number of problems that were still happening and occurring, and one of the other practices was Māori would still be damming the mouth in order to capture eels, but now the main migratory pattern had changed so that whole

migratory pattern of eels in the lake had now gone, and so we still continued to dam down at the bottom of there but there was a whole host of protests and opposition and so forth down there which continued for some years. But in terms of the lake, that flushing of the lake had now disappeared, had gone, that natural cleansing of the lake, which was important to us as Māori. Because that was what was keeping the eye of the fish open. That was our belief. So therefore now it could no longer flush itself clean and dry. There were other contaminants now that were sort of allowed to happen. And to build up over a large period of years. Māori still continue their traditional practice of catching eels, but once again there were a number of concerns around that around use damming up the mouth in order for us to exercise our practice. And so there was a whole host of negotiation going on between the Māori groups and government in particular, how it is that they could stop us from doing that if you like. So the diversion was a big, it wasn't natural for us as our belief, Rivers find their own way of where they need to go, want to go. Soon as you interfere with how it is you want them to behave you have a whole host of problems. And we know that's happening today. Yeah so. So the diversion has had a great effect on how Māori respect the waterways, all our waterways, and how the lake behaves now, what's happened to the lake, and how the rivers behave. There's been a whole host of environmental changes on the whole Wairarapa it's had a detrimental effect on how Wairarapa used to be. Deforestation was a huge big, had a huge big impact in how the land behaves now. Yeah so yes the diversion has had a huge effect on us.

So how have the barrage gates effected the area?

The barrage gates. Once again they became a flood control measure. And they regulate how the lake behaves in terms of levels during those periods of heavy rainfall and stuff like that, so therefore when the river couldn't cope they could divert the river back into the lake. There's a spillway... they could open that up and any extra water would then flow into the lake and so therefore the barrage gates became a control mechanism as to how they could control the level of the lake and the flow of the water and so forth, and how it is that they can release that water. But it also had an effect on, for us the eel migration was still important, an important practice that needed to happen, it had to happen. This was just the natural thing that eels needed to do. And we respected that. And so when they put the barrage gates in there was nowhere for the eels to go. Some of them tried to go overland, because they can travel overland, quite some distance. And so a number of them were trying to travel overland to try to get to the other side of the gates and they could get back into the water and continue their migration. And Māori campaigns heavily with the engineers around the affect the gates were having. And so therefor they still needed to maintain control of the gates they just couldn't open them just for the sake of letting the eels go. Because they still had to regulate the flow of the lake level, the water flows and so forth like that. So under much protest from Māori they then put in a hole that would allow the eels to travel through. The trouble was that the engineers didn't listen to us. They put the whole there all right, but they put it down at the bottom. Down at the bottom of the gate. And if they had of listened to us, the thing is that eels don't swim on the bottom. They swim on the top. Eels weren't going through. They couldn't figure out why the eels weren't going through the bottom. And if they'd have listened to us we would have told them. You're not listening to use. Eels don't swim on the bottom, they swim on

the top, on the surface. And so therefore we came to an agreement now that they would then open the barrage gates during the migration. They would open one gate during the migration to allow the eels to migrate. So it's this sort of conflict with the academic practice if you like. Scholarly practice I suppose as opposed to cultural practice. This is the challenging exercise that we continually have even today, continually happens so. And therefore the October period they open one gate that does allow the eels to migrate. But it's yeah, so we have been satisfied with that but in terms of the eel population they have suffered severely as a result of other introduced species that have had a detrimental effect on our native fish species and on our native water plant and so forth like that. A number of invasive fish that are quite, causing quite, they have a voracious appetite for native fish and so forth. So some of our fish species are in serious decline. On the point of extinction. So it's about getting rid of all these introduced species and so forth like that and there's been a lot of research done around that and a lot of protection mechanisms put in place but some of the invasive fish can reproduce 4 or 5 times a year and lay hundreds and hundreds of eggs in each breeding time which increases their populations as opposed to the native fish species. So the barrage gates yeah we understand why they were put in there for but in terms of our cultural practice and values and everything else like that, and they've done that to a number of other water areas and lake areas, not only here in the Wairarapa but, oh yes there has been another lake there that used to have a natural flow down into Lake Onoke, and they prevented that flow from happening. And as a result they prevented the natural eel migration and they've now tried to correct that, which I think is working but not as well as what we would like it to. We would just like a natural flow to be returned to back the way it was, it used to be instead of piping it down and putting in control measures all along that pipeline and so forth. Yeah so the barrage gates? Yeah they are a necessity now as a result of the lake diversion. So those gates need to be in there in order to control the flooding periods around here. But we'd just like everything to go back the way it is, the way it naturally was, the way it's supposed to be, that sort of thing. So yes would we like the gates gone? Absolutely. Would we like the river to be returned back to the lake? Absolutely.

Do you feel that your opinions are incorporated into the flood protection scheme? Like the flood protection plan and the way the gates operate?

We are now starting to become an important role in a number of those committees now. The wonderful thing is that our position on some of those positions now has been acknowledged and recognized. And the understanding now that we have with a number of academics on those committees is that they do know and understand, have a very good clear understanding of the environment, the changes that have taking place and the effects they are now having, and the huge impacts that it's not only having just on one particular thing but on a number of things which has a roll on effect to other things as well. So we're very fortunate now that we are getting a number of those... qualified people that have that clear understanding, and that do accept and acknowledge that there is a role for Māori to play in those important decision making areas. And so yes we do have people that are on those boards now, and we're all on the same line of understanding and thinking that there needs to be something done to restore our waters back to a healthy condition, the lake back to some form of healthy condition. And we do know that there have to be a fair number of protection mechanisms put in place, a number of

other community groups and a number of other organizations need to start playing important roles, the farming community in particular. But there's also other industrial areas that need to play important roles that have waste discharge into the waterways and so forth, and a whole host of things like that. So we do have people now that are in that decision making role. Which is good. Except me, I don't want to be on them.

What changes would you make to the current flood protection methods, what would you like to see?

Flood protection? Well when they diverted the Ruamahanga River directly into Lake Onoke, the old river course was blocked off. But the waterway is still there, but it's blocked off. And for us that's still part of the Ruamahanga, even though it's not attached but for us it's still the Ruamahanga even though it's only a short piece about that length. That waterway is stagnant. So therefore, for us, the life force of that river, even though it's only a small piece of the Ruamahanga, has died. And so we're not saying that that small portion of the river has died, the whole river has died. We see it from start to end. We don't see it as a section of this part or this part or this part or this part. And so even though that wee small part of the Ruamahanga which is only a small piece of water course remaining there that is stock full of water, it is stagnant. It is dead. And so what we're saying, this is our belief is that the life force of that river has now been compromised and so the whole river system has also suffered severely. Because it has a roll on effect. So what would I like to see? Yes, I would like to see the Ruamahanga diverted back into the lake as it was supposed to be during its whole natural course, and then the organization of how it is then, they protect it. The future flooding or anything like that. And we've had some major floods down here, and there have been some big floods that have spilled over the stopbanks and have flooded some lower parts of the lower valley and you hear the scientists say well that's a 1 in a hundred-year flood. But then I turn around and say well we've had three in the last 20 years, I'm not that old. And so therefore how, I don't think being over excessive with stopbanks is going to cure the problem. The water has to go somewhere, and it goes out into the ocean so therefore how it is that we keep continually trying to divert the excess amount of water is they go out into the ocean. And I know there are problems and this is what I'm talking about when you maintain the balance of freshwater and saltwater and how it is that they behave. And that's an understanding that a lot of people can't get their head around. And how does freshwater interact with saltwater, and well they don't interact. They're related to each other. They don't interact with each other at all. They're related to each other and their behavior is how it is that they see each other. These are two gods we're talking about, that communicate with each other. They talk to each other. And it's trying to get these people to understand how that relationship works. And so therefore if we can each... in as to how this balance is maintained by these two gods, the roles they, they play very important roles. Our view is then we are able to control the flow of water out into the ocean, but it's how we understand freshwater and saltwater behave with each other, so forth like that. I know the argument will be: these are just seasonal changes and when it floods it floods and this sort of thing but we don't necessarily see it that way. We see it as a relationship between everything that has a relationship with the earth with the environment, sea, water, air, fire, all those sorts of interrelationships. That's where our line of thinking is. I don't think it's putting up huge flood

water protection schemes or anything else like that is necessarily going to solve the problem. We don't want to see big levies here in New Zealand like they've got over in the Mississippi or anything like that. But then again the Mississippi is different it's a huge waterway, it's a huge big waterway so. But we don't want to see that happen here with us. We don't want to have these huge big man made walls or anything like that yeah.

Are you at all involved in the resource consent process for the barrage gates, in any way?

No. The hapū groups they do play a role in the resource consent process. They have representatives on different boards where they can convey their thoughts and concerns through and they are the ones then that play a role in how the resource consent process is handled and so forth. There have been a number of changes to the Resource Management Act here which is more friendly then what it used to be. There's not so much sort of policy driven now as what it used to be in the end. The only role that I play in the resource consent process is where are marae is, we have a marae. And I play an important role with marae activities, that sort of thing. So it's only around through the marae that I play a role in terms of any resource management stuff that's going to affect us. But in terms of the lake no. But we have people that are on those committees that we can speak to. And the think is that they do converse with us too so if there are any major changes that are happening and it has detrimental effect on us then they come and discuss it with us, and that's where we then register our concerns.

Interviewee: Ngāti Kahungunu 3
Interviewer: Elizabeth van Zyl
Notetaker: Elizabeth Walfield
Observers: Elizabeth Walfield and Elizabeth van Zyl
Location: Ngāti Kahungunu ki Wairarapa Building
Date: February 3, 2016
Transcriber: Breanne Happell

What is your current occupation?

*** RESPONSE REMOVED FOR CONFIDENTIALITY ***

Are you a Lower Wairarapa Valley Scheme ratepayer?

I don't pay any of those things. Wouldn't actually know, because I am working with the water ways in the Greater Wellington Regional Council.

Which iwi and hapū do you identify yourself with?

I am Ngāti Kahungunu and Rangitāne, that's two of them, and my hapū is Rangitāne Kahungunu Ngāti Moe, and my marae is Papawai. My ancestor was the last, if I remember correctly, he was one of the last Rangitira, and his half-brother actually owned the land that the marae was built on. My whakapapa from him goes back for generations, and that was on the Kahungunu side. And on my dad's side from his mother we are Rangitāne. Were pretty well spread out.

When did you last visit Lake Wairarapa?

Oh just the other day, I always go down there to see the teaspoons. I go fishing every year on the lake down Lake Ferry and they have a fishing competition called Big Three and we have competed there for the last 12 years. And we just go for the fun of it, we love the fishing. We have our own little boat, and we haven't missed one, well we may have missed one, but otherwise we have been there every year. The lake to us, Lake Wairarapa is very important to us as historical place for us. Especially for my family and my husband's. We're all involved with the same thing with Wairarapa Moana and strong connections through our ancestors, and I do have strong connection from my dad's mother who is a Rangitāne Ngāti Kahungunu. I just love the recreation and all the sports down there. We get flounders and all of the fish and it's just a supply of food for us. And Māori go and get it whenever but we do have to stick to the rules and regulations to help repopulate the little areas. We have little places where we have little nurseries where we try to rebuild the numbers, but that is sort of looked after by the people but we do get the outsiders come in and clean us out so we need to try and regroup again. But for the people in the area it is quite good because we have the farmers also who let us go through to the areas where our people used to go to.

How do you think the flood protection methods have affected the Lower Wairarapa Valley?

Quite a lot actually. It's not really a protective scheme that they have put together. It's like it all ends up down in the lake but it's what comes from further upland that comes down and affects it and comes not only into our creeks and our rivers but also the lake itself which carries on into the sea. But we have the pollution of chemicals and right now it's at a very high level in creeks and in our streams and rivers and whereby it is changing the food source like the eels and the fish. And they are no longer in these rivers and creeks but because of the way that the water has been diverted where all of the farmers put their water stock its depleting the smaller streams where they have our crayfish. They are no longer there because of the changing of the waterways and this is what we are now trying to fight to repay the damage to these waterways and it's not easy work, we have a group that are trying to establish and work with the district councils, working with the Wellington Regional District Council, who is trying to help these scientists and these people that are trying to work in these areas that are trying to remove the damage that has been done. In their own river here the Ruamahanga River, is quite bad, it needs a lot of fixing up. Right now at this very moment a few of them are going in the lake you will find that the pollution levels are quite high to the point that you can't even walk the dogs around the lake because if they happen to drink the water they will get very sick if not die. Yeah there are a lot of things to do with our waterways, that's not good. So it's taken a while to do the right thing with the scientists and travel around to try and see the work that they do. They do night checks every so often to try and see that the water is not getting is out of control but we don't seem to be getting anywhere fast so it looks like our waterways could be our main effort at some point to get that right because without them it's useless, we can't grow anything, unless we try to catch the rain. If it's going to rain. But that's my feelings on how we need to try and protect what we have otherwise our kids are going to have a battle and this is what we need to look after.

How have the flood protection methods affected you and your iwi both culturally and economically?

Well I just told you about how we are trying to fix it and nothing is really coming right so that is going to take a while to fix what has been done. The flood plains, they're just another reason, like back in the day when the lake was still ours, the farmers in about early 1900s the lake would fill up and it would go back in land. And by doing that the farmers didn't like that because it was breaking down what they could use to feed their animals so sometimes they would block the lake, they would go to the mouth and block it and the Māori people couldn't get their food so it was a matter of who gets their food first the cows or the people. So were definitely still going to let the cows get their food too so we had to do something about it so we had to we had to release the water, now this is history, going back in history. So the flood plains that's how I feel about it. But now they've got that land back, they are farming it, but it was all stated, I think when the lake was first looked at by the government that the land was lost to the people once it became down to the water's edge. So that was an argument that we are still fighting that today. But it's not that bad, I think that we did get back a majority of what belonged to the Māori people. So it was a long hard struggle, it was a fight but I mean the government did take the lake from us and they put us up north. But I mean we did develop the land up there and now they are going to give the lake back but it's not the way we bought it, in

exchange for that land I don't think so. We've developed the land to where we got it today, it's an asset for the people who had to give away their lake, and now we have the lake back its and they've been trying to look after it now. Yeah so it's not a good deal, was a rude deal, and now he's trying to take us through the TPPA. Yeah so there are a lot of issues that we have been through but I hope that you are not going to be taking any of this away to them, they've been developing something. It's just history, it all comes back to history.

How would you rank the water quality in Lake Wairarapa on a 1 to 5 scale?

Well the way that the water is down there now I wouldn't say that it's the best but with what the scientists have been able to do with it so far is to keep it at the level that it is now, I think that they are doing good. Again it just takes one little thing to seep out and we are in trouble again. I mean it's like how the affluent ponds they're another thing that is getting into our waterways. Where they situate them is near our freshwater springs, and they say its fine it's seeping through so once it gets to that level its fine. But we don't seem to think that it is because we have had these beautiful pristine springs well before any of that started to arrive around the country so to be able to where the district council talks about putting them, they are putting them right above the very thing that we are trying to preserve. You know, and that's wrong, it shouldn't be done, even to release it into the rivers, again its wrong, but they are not owning up to what is happening. That's just my personal feelings about what is happening around here. So we are not just trying to fight for the future we are trying to fight for the quality of life being taken away and now we could be paid for it to be given back to us in a clean healthy way. That's just the way that we have been brought up and our parents said that they would make sure that our future is good for our children. So we are training them and teaching them and its coming through, like my daughter, she is already on that working with the young ones, she works with the youth that are trying to get their own student boards. This is where the kids should be steered so that they can help for the future.

Can you describe what you know about the barrage gates and Ruamahanga River Cutoff?

Oh those things! Well I know that they only open them every now and then, they don't open them all of the time. When they are open they are a good source of flushing, and I think that's what it's really all about. I went there a couple of times on the excursion when they took the bus that way. And the driver of the bus at that time said that that is a form of flushing. The only time that they open them is if they are having problems further upstream or if they need to be able to give it a good flush to clean them. So that's about all I know about the barrage gates. I've only seen them do it a couple times, but to me that much is all.

Do you have an opinion on the current water levels in Lake Wairarapa?

The water levels, working with the guys this last year, they have different excuses that they have going on at the lake. They will say that a lot of the food source that is there, they will say that because of the algae that is around that does affect a lot of what goes on in the river and in the lake but not to the extent that it is going to hurt the species that are concerned in the lake. It's just what comes down through the lake, into the lake and the silt builds up, the silt is one of

the main things because it blocks the nutrients that are in there and it means that a lot of our fish species don't get what is actually needed for their life support. But otherwise Lake Wairarapa has been to us always a historical part of our culture because how we fished up the fish. But those are just stories for the kids but how the river has been lately it actually has shrunk, it's not as big as it used to be. And whether or not it's because the mouth of the lake is hardly left open, the lake mouth is not blocked often and it is usually so that the eels can run, they make sure that the eels can go do their migration and all of the other species that are caught up in there, some of them get out, it's just the cycle of the life span. This far trying to work with the Greater Wellington and other people that have given us the information about how they are working on the lake and the other lakes around, like Lake Onoke next to Lake Ferry and Lake Wairarapa, a lot of the waterways are affected by what goes down from up here from the Ruamahanga all the way down to the lake mouth to Lake Wairarapa. So it depends which kinds of chemicals have been flushed out down from the farmers and piggeries and the factory. There are so many other questions that need to be asked about who's putting what into the water, its coming from smaller areas. There's just a number of things that aren't being notified of that are just being released into the waters but my main objective to all of it is what is being released by the factories the farmers, and even the fisheries they have to clean up and just general home use of chemicals. A lot of people don't realize that they shouldn't be putting stuff into the water that it will float on down the waterways.

Do you feel that your opinions as well as the opinions of your iwis are incorporated into the current flood protection plan?

Well it should be because a lot of the talk that was given earlier in the peace was from our member, they would know more about what is going on with the waterways because they lived off of them. The creeks and the rivers, they are their food source, I mean even the watercress today, we lived on watercress, and that came from the river and that came from our creeks, but we can't get that anymore its turned into a totally new source of plant beds, it's like a delicacy now, we have to look for it, cause it's not there. That's about me with the waterways, and we are not happy, were angry about not being able to have what we were given, and not through our own doing, it's through the stuff that is going into the rivers, its killing all of these plants and the funny thing about it is now were looking on the side of the hill, of course its growing there. What was once in the rivers and the creeks is now on the side of the hill where the main drainage of the water source is coming through, and that's sad because it's not the same.

What is your understanding of the resource consent process?

I think that that's where we need to have more people that have the real knowledge of the actual what's going on for the community. For the people that should have some kind of input from the people into those resource consent processes. Because those resource consents only cover certain areas, but they don't get an influx coming back from the people of what they think. And this is why the iwi has a say in it but it doesn't get back to the marae so I wanted to grab the people from the marae and ask them what do you think about your creek right next to your marae? But what once was a food source is no longer there anymore. Even today, like with

the TPPA, getting to the point where we may not be able to even grow our own food. Now that is a real concern, and we've not only been knocked over, over the centuries for not being able to stick up for ourselves and now we are being put to the point where you have no choice in what you are going to have or what you want. It is what we say at the top here that is going to happen, what we say is how it is going to be, it becomes law. Well when it comes to our existence that we are talking about there is going to carry off of what tumbles down, what happens if everything stops, like the way things are now and it comes down to that point. What happens now? I think that there are going to be unhappy people in this country for one thing, and you cannot stop a person from existing by growing their own food source. And if it means that we need to divert our own little creeks to try and get the freshwater from the hills then that's what we are going to do and there will be no way of stopping it. You could put all of the demands of the crown and everything on it but it will not stop the people from existing and that would be the future of us. I think with all of the funny rules and regulations you can't have your own garden to plant your own stuff or you can't erect your own home or whatever. It will just become a big fat joke, just like the flag. That's my opinion, the flag is a joke, the whole TPPA is a joke, like why can't we tell them what we want rather than them telling us what to do?

Interviewee: Ngāti Kahungunu 4

Interviewer: René Jacques

Notetaker: Breanne Happell

Observers: Elizabeth Walfield, Elizabeth van Zyl, Breanne Happell, René Jacques

Location: GWRC Masterton Office

Date: January 15, 2016

Transcriber: Breanne Happell

What is your current occupation?

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Are you a lower Wairarapa valley development scheme rate payer?

I pay my rate to the lower scheme through my rentals and so, no sorry actually we pay it directly in terms of indirectly in terms of paying the Greater Wellington so the lower scheme is 50 50 with, 50% of people are land owners and the rest are rate payers in Greater Wellington. And so the rate payer and the rest of greater wellington, that's how I'm connected to it. I would also say that rate payers also include the rate payers in the rent. I don't know anyone who would say oh I'm not going to include the rate into the rent because that's what I should pay, so even people who rent are rate payers as well. And so many people make the difference between rate payers because they should have an input in decision making when actually if the whole community pays rates and because it is being passed on by the landlord, then everybody should have the same depending on what those rates go to.

So I know we've kind of asked you this question before but which iwi and hapū do you identify with? This could be multiple.

So if I have to choose I choose to be Kahungunu ki Wairarapa. If I'm asked what iwi I am without making me choose one then I am also Rangitāne and Ngāti Porou. So I have a number of iwi affiliation because my ancestry has a number of iwi affiliations. That's just the iwi, on hapū I'm affiliated to three main hapū. One is Ngāti Karpopo(sp.) another is Ngāti Moerite(sp.). And so those three hapū are from my ancestry as well.

Are they all from this area?

They are all within Wairarapa.

Do you partake in any recreational activities in the Wairarapa Moana like fishing or something?

Yeah a bit of walking and relaxing in the area. Some time for contemplation and some time for healing. And part of what I do, my recreation is story telling so I tell the story of our people around Wairarapa Moana.

This is a little difficult since you have multiple affiliations but what would you say is the history of your ancestors in Wairarapa Moana?

Yeah so right back from Kupe its part of discovering the lake and naming the lake and the lakes. So rather than just one lake, both lakes. In Māori when you have a plural the plural is not with the word that's plural it is with the "the" so instead of te, te means the, na is plural. So if you have computers you have na computers but if you only have one then it is te computer. That with a number of affiliations in terms of lakes is more than the one lake so roto means lake but na roto means two lakes so when I said lake before it is about both those lakes.

So what would you say the Wairarapa Moana means to you?

So I want to take this a little slowly. So in part of the genealogy I gave I hadn't kind of finished about those affiliations. And so part of it is naming and discovering, part of it is people who died there. My ancestor in trying to liberate the lake from people who had moved into the area and had taken the lake for themselves. He died in trying to defend the lake. Another ancestor in terms of creating the peace between Kahungunu and Rangitāne did that through gaining the lake in terms of the establishment of peace. Another ancestor whose name is Fatoro(sp.) he made the transition from gifting the lake to the government and then calling the government up when as a part of an exchange they hadn't given us a fishing village and so he agreed to receiving a dairy farm in the middle of the north island instead of a fishing village. And so that was all around the lake.

The next question in terms of what does the lake mean to me? The lake in terms of Wairarapa is taking on the name of the province it is an identity as well about where home is. The lake had something like 20-30 tonnes of eel per year that could be caught there. And so it's the way that our people and because of our connection to the Moana to both lakes we were able to survive here, to develop here and face colonization. And perhaps was the hope that we could one day get redress for improper colonization. So as a symbol of identity and a symbol of hope both are quite raw and quite in Māori we call it mauri it's like how we see the lake. And so someone looks at the lake and they see a brown puddle of sedimentation and we see the place that is home. And so the kind of idea of what home means to you is what Wairarapa Moana means to us. And so we extend that Wairarapa Moana throughout the Ruamahanga catchment and say that Wairarapa is the province around the Ruamahanga catchment. And so one of the reasons that was is because there was so much food there in terms of eels. 20 to 30 tonnes a year, people would go down together and fish together and so while people may not have lived there people came from as far north as where currently Masterton is and went to the lake and had a place there and did their fishing from there. And so a dream of mine in terms of cultural redress is to have busloads of our people go down to the lake again and fish, perhaps not in the quantity of 20-30 tonnes of eel but to fish more to be besides each other while we fish and to enjoy the time together. And so we got a lake that's come back from being super eutrophic to supporting a fishery that has eel that we can fish for and spend the day together and celebrate ourselves as being from Wairarapa. And so that has those intangibles of home means to people. I imagine home in different places it of course means real important things to other people and

so that's so. There are a whole number of Māori words you can make incremental change in a whole lot of places but you can't make incremental change in all of lake Wairarapa and be effective cause there is 35 years of built up sediment. And the sediment gets suspended during winds and makes it look quite brown that's only a certain lay of sediment. There are layers under that that are untouched. And so if I'm going to clean up the lake which is my current project. There is a whole range of things that I have to get into place and working with different people. So my work is getting people out of thinking of small incremental change to steep change and to do things quite differently because if we don't do them differently we'll be there for at least 35 years trying to get rid of the sediment. We're not going to get rid of all of the sediment but we don't want to do is have the sediment that's there release phosphorus into the lake. We're actually at a eutrophic standard of the lake now and the next step is that the lake is dead. And stirring up, for example one of the things that could be done is that people could go through with dredges and take up all of the sediment but at the same time if they released an amount of phosphorus they would kill the lake. The treatment then is worse than the disease because you've actually killed it off. And so we, there are a number of other things that we are doing that we can look at doing while we investigate other ways of trying to restore the lake. That's in lake Wairarapa but in Lake Onoke there is also a big sediment problem so before when the river used to run through lake Wairarapa it would drop sediment in lake Wairarapa but now because it goes straight to Lake Onoke it is dropping the sediment that it would have normally dropped in lake Wairarapa off in Lake Onoke. So Lake Onoke has more sediment that it should have in it. So there is the same problem of how do we restore that given our situation. So in New Zealand we already have a number of lakes that have already done that Lake Rotorua is one of them, Lake Taupu is another lake that have had significant contributions. So in Lake Rotorua they received 300 million dollars to clean up the lake. Our treaty redress for all of our people might be at the top part of 100million dollars we then will have to go back to the government and ask for 150 million dollars to clean up the lake so I'm think that is a sizable change. We won't be able to have that by going to the government and saying look we deserve to have the lake cleaned up. We've got to go back there with some economic plan we have to go back there with the community, we have to go back there with our own aspirations and we basically have to tell them the story about why Lake Wairarapa is worth saving. Why is Lake Wairarapa worth restoring? So the work front is trying to restore the lakes so that part of the essence in terms of what home means. So you know that emotional pull is I want to restore the lake cause it's home, but I've got to be able to translate that to somebody who's home it isn't so they might have a home somewhere else and they're going to say well that's bad luck you can't have your home but I can still keep mine because I'm not in an earthquake disaster or something like that. So that's why we've got to think about the way we do. So that's what it means to me in terms of what does the Wairarapa Moana mean to me. And so another thing about the Moana is that one other thing that it means to me is some part healing and pondering sitting at that lake kind of taking on the feeling of the Moana and the Moana is giving this kind of time of contemplation. And so where I can get the most nature contemplation is when the native trees come off the hills into the lake. And sitting right there where tui come and where another bird which is a wood pigeon kereru come as well. And they are there to contemplate. And another thing that we've already talked about is going around telling stories about or area. So at the moment what the ideas of the lake mean to me with our

tourism project, is that currently people don't stop at Lake Wairarapa, they go straight to Martinborough. And maybe because they're looking for the wine, don't want to make a judgment of people that go the Martinborough and drink wine, but should they go there to drink wine they are there about that idea. So you can actually go to, from Featherstone, to Martinborough and not see any of the lake. And you could even go from Martinborough down to the sea at lake ferry, and being a little more adventurous and still not see the lake. And so making the lake a tourism attraction is a part about the story telling. And many of my relatives tell me that if they go there they're just going to see a dirty lake. Why would you want them to go there? And part of that is about understanding a sense of home. And they understanding what their place is. In the past a judge here listening to Māori complaining about not having the lake and or we having been forced into sales by the government about the lake. The judge at the time said "this lake is as important to Māori as the cod fishery to the new founding people of Canada". And so that is the importance of the lake and what it means to us. And there is some physical aspects and emotional aspects, there's some spiritual aspects as well so one of the things is that in the lake we have taniwha and rakiruru, and rakiruru means the sense of an entry point. Rakiruru(sp.) is the name of the taniwha and the taniwha is kind of like a dragon. I don't know if that is the easiest way, there are quite big differences and so a taniwha on one could be something that takes people lives and on the other, gives people's lives. And so there is a protection kind of a taniwha and there is a rewarding taniwha as well. And so those type of taniwha are rakiruru(sp.), and rakiruru(sp.) is good for Māori from Wairarapa because it is protecting us in terms of things around Wairarapa and Wairarapa Moana but it is also a warning so there is an old fakatoki(sp.) or proverb that says "Wairarapa Moana is full of fish and full of eels. But Wairarapa Moana is also full of logs". And so the log part is making the lake dangerous to sail on because any time a submerged log can come into your waka and take you out. And the logs were often thought of as taniwha, so why did somebody get hit by a log? Is because they had upset the gods and had upset the taniwha to look after them. But in other times we pray or do karacki(sp.) and go to collect eel and you will have lots of eel but if you had done something wrong you would feel that taniwha was upset with you and you would away. There is also something called a potirria(sp.) or actually there are two potirria(sp.). And a potirria(sp.) is like a creature that keeps the balance of the environment. And so the balance of the environment is important and potirria(sp.) is keeping that balance. And so you might have heard because you've done really well in your study of Māori, you might have heard of kitiaki(sp.), kitaki(sp.) is kind of like a steward or a guardian a guardian for a certain place and the balance was left to something called potirria(sp.), and there are two potirria(sp.) in Wairarapa Moana who try and keep the balance. So in 1855 there was a big earthquake, about 8.2 and the reason we think that that happened was because the balance in the environment wasn't right. And what had happened in 1853 and 1854 is we had sold land that we said we weren't going to sell. And we sold the biggest track of land that we sold was around the west side of the lake and the north side of the lake. And so the place where the earthquake happened was just above the lake and what happened also the base of the lake was pulled up. So what was there normally is a good fishery was no longer a good fishery because it was shallower than it was prior to 1855 uplift. And so 1855, when we talk about it amongst ourselves is this is what happens when you sell your lake. And so then after that for about 40 years and the government kept on coming back to our people and saying "sell the lake" and we

go “no we don’t want to sell the lake”, or both the lakes. We don’t want to sell the Moana or, we want to keep that mouth of the lake at Onoke open, closed sorry so that we can have our own economy. So in the 1850, not only did we lose part of the economy because it uplifted the lake but after the 1870’s we lost the opportunity to be in the economy. And we fought hard up until 1896, over 40 years, and we said we’re not selling the lake and they said well we’re going to take the lake from you. And so we decided that we would gift the lake instead of getting our own land taken off us. And we gifted the lake and they said “as a part of your gift, we’ll give you a gift” and they gave us 2,000 pounds. But that’s for 50 years of going to court, was that, that’s what that 2,000 pounds was for. When they said “we know that you have fishing rights there and you want to keep the fish, and in fact the Premier of New Zealand Richard Seven said “this will remain a native fishery, the acclimatization society cannot bring its fish here. The acclimatization society became known as the Fish and Game and they brought all the fish that are there now. Just a small percentage, below 5 percent, are native fish. And so what even the premier of New Zealand at the time, that Richard Seven had promised, still never kept their promise. And so in 1896, when we came away, and the person, and ancestor named Pilipita Māori(sp.) he died in 1896 and 6 months later they sold it. Ah well gifted it. And we lost our lake and so we lost it and so our part in the economy and now we’re working for everybody else after losing our land and our resources. And so we now have a company, and incorporated society, an incorporation that’s called Wairarapa Moana, it’s worth about 250 million dollars today. And that’s out of the land that they gave us, in the middle of the north island that was an exchange for the fishing village that was meant to be by the lake, on the side of the lake. While it is worth 250 million dollars now, it wasn’t always worth 250 million dollars. It didn’t have cobalt in the soil, so we knew we can’t farm dairy cows without cobalt. They fall over, and luckily people in Australia found the cure for this and were able to put cobalt in our soils and we were able to develop our milk. Milk hasn’t always been as productive as it is today. At some stage in New Zealand’s history during my life time, it was 4cents a liter of milk. And so you would put out your milk bottles and you put down 4 cents and someone would give you a liter of milk. And so you weren’t getting much return on investments, until recently our company has been worth 250million dollars. People think that we’ve had that since 1897, we haven’t, and we’ve only received that land that has been good to us since 1990. And so over the 25 years we’ve taken the company out of debt where it is now worth 250million dollars, and we export milk to Vietnam and we have a company there that’s not Fontiro which is the main dairy company here in New Zealand. We have a company called miracca and the reason we have that company is because of Wairarapa Moana. And so our way forward through our iwi is because of Wairarapa Moana. That’s been the constant that’s been there that we finally got it back. And just recently the government agreed, we had been doing some negotiating and so another aspect of what it means to me, it has been a part of negotiations and so some times when you negotiate you lose. And we were negotiating for Lake Wairarapa to be returned to us, we had a whole range of findings, some social, economic and scientific findings that showed that we should get Lake Wairarapa back to us, in fact we should get Wairarapa Moana back to us. We sat in the negotiations office and they said to us these lakes are worth 30million dollars. With the settlement at the time there was 70million dollars that they were going to give us. We then take 30 million dollars to pay for the lake. We knew that wasn’t going to happen. We knew we couldn’t go back to our people and tell them that. On that day I thought we lost the lake. We

tried to be brave about it and we tried to laugh and say “how can it be worth 30million dollars? It’s a liability as soon as you give it to us we’ve got to find 150million dollars to clean it up. How can this be worth 30million dollars?” And they said “well actually all of the land around the lake is dairy farms that’s worthier 43,000 a hectore. And they had actually, if you transfer that across the lake, that’s why it costs 30million dollars. And we’re going to give it to you for 30 million dollars, I don’t know anyone who wants to buy a headache that’s going to cost them another 150 million dollars. And so we said “well we actually think you should gift it to us cause we gifted it to you, and when we gifted it to you it was a pristine area, it was a native fishery didn’t have any exotic fish in it and that’s how we gave it to you, that’s the condition we gave it to you in. You’re giving it back to us, one stage away from being a dead lake. And so we got the government to agree to gift it to us for zero dollars. So now we’re going to have gifted to us the bed of the lake, that bed now has 35 years’ worth of sediment in it. We’ve got the bed of the lake, that’s about to be signed off, hopefully in march, and we agree to that. So went over not even half of what the lake means to us but we have to keep the lake in conservation, as a reserve which we won’t be able to have a water skiing industry or something that requires water. We can’t do any of that we have to reserve that, and in fact the government is asking us to keep it in a better condition than they kept it in. So just as a note of how conservation of land works in New Zealand. There’s the conservation land and then there’s reservation, they’re keeping it as conservation land but they are requiring us to get it into reservation land. They are requiring us to share the lake with the department of conservation, with the GWRC and with South Wairarapa District Council. So what does the lake mean to me? My cousin’s wife comes from Utah, and he brought his wife and he asked me when am I getting married? And I’m over 50 so I’m thinking, not happening. And he says to me, well actually you’re married to Wairarapa. And well we had a laugh about it and part of what I’m doing in life is about that. So I’m going to leave it there because you might miss your train.

Well thank you for that. That was just a very interesting account.

If we finish those questions before 3 could I talk more about the lake?

Yes sure. How have the flood protection methods effected the lower Wairarapa valley? It is sort of similar, I guess we’re talking about more current though.

Yes, we’d lost the lake a long time before the current manipulation of the lake, the changes that have happened in the lake. So that was never ours to decide upon. It hadn’t got to the stage where we were partners and where the government would always ask us as Māori what we think of their actions and so we didn’t have a lot of input. And the people who saved it from being a bigger dairy farm was the Fish and Game, at the time the Acclimatization society. The Acclimatization society put a conservation area around the land. The Acclimatization society is now Fish and Game and so they are interesting in hunting ducks and fishing trout and they’re interested in other things but those are just the main ones on which they focus. And so the manipulation of the lake in terms of using it for protection from flood water was done under the guise of the amount of water needed to maintain so that certain birdlife can nest and repopulate. That act, the whole conservation water act has been changed now to include things

Māori, but it can only be changed if there is something dreadfully wrong with what's happening. So if it is nothing dreadfully wrong then it just, even though it was done before the current amendment it carries on and the previous thing has no idea about how Māori contribute to it. So down at Waihunga(sp.) they have they have another, they were able to change the conservation order that include Māori values in the cooperation. So if we were including Māori values in the lakes, both. As they work together in terms of flooding and a whole bunch of other things. Then putting some of the values of things Māori might change the look, or even the operation about how that might happen. So I've been asked to think about that from our Iwi, and how we could get that kind of change through the treaty arrangement. And so the barrage gates might look a little different, don't get us wrong, we think there is a need to have a hard engineering solution there in terms of floodwaters, but we think there could be a whole range of softer, what we call soft material engineering, part of it is for blue and green infrastructure. Blue infrastructure is about infrastructure using the water to get the result that you have. And green infrastructure is about using plants in the environment to get the results. So for example, if you wanted to take away the effects of flood waters, you might try to tenure out the water at higher edges through plants or trees that have deeper roots, then what happens is when all that water comes in a flood event, instead of releasing all at one time, we're getting it from the top of the hill down to the sea as fast as we can. You could attenuate it in a forest or deep roots, sophisticated roots, complex root system in a tree called Kahikatea. Kahikatea could hold a whole lot of the water so that instead of having the effect of 100 year flood rushing down 138 km river you could get it going a whole lot more slowly if you added to that thinking that along the way instead of getting the water from the head water and as it collects out to sea as fast as you can, you get wetlands along the way that through green infrastructure starts to collect water. So actually the water comes down sort of slower so at the bottom end were you would have your 100 year flood water, it would be a whole lot of water. But if you can slow that water down so by the time it gets to the bottom instead of having the force of 100 year flood it has the force of a 50 year flood. Now you have saved the amount of money you need to use on hard infrastructure in order to produce this. These other things that I want to say, so the gates. One of the things that happened when the gates were painted was that they were not closed the whole time. And they have to be open for the painting to happen. So you can see what the effects are and I don't put much validity into 1 time effect, I need to see it happen at least 5 times to understand what the effects are. But even then I'm just looking at a trend, I'm not looking at this is concrete evidence, its telling me Khaki, or fresh water mussel can adapt, birds can adapt and there is better flow for fish. That's what the trends are telling me, then I'm going to ask the question "why is the gates closed so often?" Why can't we have a lot more fluctuation? So those are somethings that I think, rather than being hard and fast that we can work with the variability in terms of flood protection in the lower valley scheme.

We would like you to rank the water quality from a scale of 1 to 5, 1 being lowest and being excellent.

Ok so Māori have a different scale so from the bottom, wai matai(sp.) is dead, wait kino(sp.) means bad water, wai Māori(sp.) means ordinary water, and wai tapu(sp.), no wai ora(sp.) is

life sustaining and building water, wai dua(sp.) to lots of wai dora(sp.) actually is life enhancing not even like, like enthralling water. You know you go round that water and you just catch what that water does. So lake Wairarapa, so Wairarapa Moana is a little rough, so lake Wairarapa I would say is wai mati(sp.) so that's I don't know a 5 on the bad scale. At Onoke where it is a different kind of water, it is called wai kimo(sp.), which is water that's saltier and is affected by the tides. Its and so, that water there. Because it flushes and moves a little more regularly, I'm thinking that that's more like a 4. So it is wai kimo(sp.) because of the sediment in there but there is some type of movement in there.

Could you write down this scale?

This hasn't operated for a long time because when you go to biology you don't get this scale, you get a drinking water scale, a swimming water scale.

So the law says in the RMA that we should protect the life supporting capacity of the water. So the life supporting capacity of the water is what? Should you be able to swim in life supporting water? Well actually we've got a rule that says, rather than swimming in it, you can wade through it. So you can't put your head under. You can just walk and your skin won't burn off. And so that kind of wading standard is then saying this is the life supporting capacity. And we don't think it is. We think actually life supporting capacity means you can put your head under and not think that you're going to get attacked by meningitis.

So how do you feel about the current lake Wairarapa water levels?

Yeah on an urgency scale it is the most urgent we have to do something seriously soon. And we can't do incremental steps anymore. We can't say could you stop doing this and then everything will be right, no. We've got to take a major step there about how are we going to clean this up. Any time you're one level above being dead it is pretty serious. And so yeah, and another way of grading, we would be in that ward where people are just hanging on for life.

So do you feel that your opinions and the opinions of your hapū, iwi in the region are incorporated in the current flood protection plan, are they like balanced even?

You have to tell them don't you. I think there is a whole lot better things that can happen. But I'm going to say that flood protection can't do it by themselves. Even when I wanted it to happen, they don't get a budget of 150 million dollars to clean up the lakes. So the best thing that can happen, is that rather than us work to see a solution that's not going to get anywhere. We need to level both of the things that we do. Both Māori and flood protection in the lower valley scheme so that we can leverage to get 150 million dollars. So somebody, the government can get us 150 million dollars because they got Lake Rotorua 300 million dollars. And so, and it doesn't have to be money. For example the government gives professors some wage to do research. If we say, we want you to still spend that but you need to spend that on Wairarapa Moana, now they lose no money because it is the same money that was going to get spent. But we get that money, and we bring that professor here. So if we could do a whole lot of that kind of, actually it is a zero spend but it is coming to Wairarapa Moana. But this is money you're

paying them, but pay them to do it in Wairarapa Moana instead of letting them do it where they wanted. All we're saying is that money you were going to spend, spend it on Wairarapa Moana. So while this sounds big, 150 million dollars. If we can take it from where they currently already spend the money, then we can do that, now if flood protection, or the lower valley scheme and Māori were looking to leverage that together then we could work together. And we can say look, there is no use in me telling you what I want. Cause you don't have the power to do it. But what you want to do and what I want to do at the extreme level means we need more money, why don't we do it together? And so that is the kind of thing that we would like to say. We would like to sell all the infrastructure for 160 million dollars because that is what they keep on telling us its worth. We don't think we could maintain it for 2 million dollars every year, but that's what they think. Sorry graham Campbell, I apologize.

So how important would you say is the flood protection in the lower valley specifically to Māori you represent, to the hapū you represent?

You know I think a lot of people get quite, how do you say, they think in kind of concepts here, when actually the reality is that our people have got work around the Wairarapa Moana on farms and them having to make a living out of that. And so when people say farmers did this, well we are a part of that farming community. My grandfather, my great grandfather have shorn sheep, built fences, lived off the land, lived with farmers. They have given them sheep too. Both shared vegetables together. So as a community we have grown together, and so there is a reason why we have flood areas and that's not so that we can have an agricultural base and economy. And we have been a part of that economy and previously we had not been a part of the economy and the part that we're not a part of is directing it. We're a part of it in terms of getting something further down. So if people are feeling happy we might get the trickledown effect. If things are tough, like they have been in the last two years, we will get no trickledown effect. And we are not a part of the economy, so we are at somebody else's whim in terms of a people. We would rather be controlling our own path, back to the company that was worth 250 million dollars. We get a share but there is tens of thousands of people in that company. And it is recently just returning that kind of money but in terms of the future, what we have to do is get their expertise down here to the Wairarapa so that we can do our own farms, run our own farms. And that's what the treaty and the treaty negotiations are setting up. You can now have something where you can be a part of the economy. And rather than just taking what people leave over for you. You can start dictating what happens in the economy.

So what is your understanding of the resource consent process?

I tend to be cynical about the resource consent process. So I am not an applicant but I am an affected party because things of Māori are affected. And so there are a number of systems and a number of ways they can do it. Let me tell you about dad system. Usually we say who's your daddy when they bring up this system. They decide somewhere else what they're going to do. They announce what they're going to do and then they defend they're announcement. That's the daddy system. DAD, so decide, announce, defend. We would rather be involved in an E.E.D.D. system. Where you engage, you educate, you deliberate and then you decide. So if

there are a whole of people who aren't educated about what a resource consent is, then there is an opportunity for that to happen. Rather than say educate through, what do they call it, through hype. And so rather than educating through a marketing plan. Educate really seriously about things, say this is what is going to be affected by what we do here. And say if it is holding up a whole range of sediment, haven't even talked about fish, the sediment can't get out of Lake Wairarapa or Lake Onoke, who is talking to us about that? And so this is a good start in terms of engaging but sometimes what happens is, we know you're the most difficult people to deal with so we are going to engage with you now, we won't talk to you for 3 years and then we'll tell you what the plan is. No, if we are going to be engaged now we want to see the next step is education, then after education we want to deliberate with Greater Wellington and the Lower Valley Scheme and say for our Moana, this is what you need to consider. So sometimes people consider engineering solutions. And engineering solutions sometimes come with a factual bases, where they say we're the guru or the expert and I've been to university, I might have even been to WPI and I have learnt all of this, so you should listen to me because you know, when you talk about what is happening in the lake, you don't even know how the barrage gates work. Oh where have I heard that this week? So you don't have an opinion? Well no? Or could you change from the expert, and sometimes what usually ends up happening is the dumbing down. And it is not only dumbing down of the language but it is dumbing down of the whole process. And so to educate people are patronizing as they are dumbing it down for them. So instead of being educated that way, why don't we look at co-learning, what can we both learn about this? Here is some stuff that we know but here is some stuff we don't know. You know you don't usually go to an academic institution where they say you need to identify the gaps and then you don't know what is happening in those gaps. And it might be that we don't know about that because it is not a part of what we do but actually what you do affects that. And unless you know what that is. Say fish say sediment, you're not listening to what we're telling you. Because you have basis for understanding that. And even worse, we might even have the basis to ask the questions we should be asking. How is that clear communication if one group doesn't know what to say and another group doesn't know how to listen? Is that dysfunctional communication or what?

What changes do you think should be made to the current flood protection?

I think this question is looking for an input as opposed to a process. So saying the changes are the changes to some concrete structure or hard engineering or the range of levels in the lake. We think there should be some changes to that. One of our fish passage and two of our sediment to be flushed through the system. That is just the start. We think there should be wetlands and sediments traps around the Moana as well. But those are kind of end points. I think we can get to those end point through a whole process is better. So rather than talking about the end points, because actually if the process is good then we'll get to those end points. So in the process in terms of a different style of how to engage. So you know the other thing is that this is going to be a 6 year consent, my opinion it should be a 25 year consent too. Ian I'm sorry again. You'll be retired by the time this report comes out. But 25 years, that's a whole range of different process. So if your only signing up for 3 years you've got a very good start in terms of looking at the process. One other thing is what we have to do as Māori as well, is

identify our bias. And say we're thinking this because of this. And so something that sometimes happens in our collaboration or our consultation is that we worry about the what and the how and we don't worry about the why. We kind of get to the why at the end. But the why is not the backseat, so we need to have a process that clearly comes up with why we are doing this. You know. So if it is to manipulate the environment, so the next question is, so you can kill the environment? No, to manipulate the environment so we can work with the environment. If that's what we're doing, then let's put that out front. That's why we are doing this. Now if we've got them at a certain level. Now I've said the environment but there is someone else that goes "how about our farming? We actually depend on you keeping them at that level so that we can farm well". And so where on that purpose does that fit us? And so we've got to come together about why we are doing what we're doing. And so if for, and it can be more than one thing. Don't get me wrong there can be multiple reasons. But we need to be honest about them and our process about them. And so if somebody comes in and says but it's, how come your environment, because we have little daisies that are growing there and the soil is allowing that to happen. But it is not helping fish, it is not helping sediment, so we don't want to be traded off on these things. We want honest discussions to happen. And actually, if you count a 3 year basis for a 6 year consent, you can look at the process and built for the 25 year. And so yeah you can get a consent in under three years but that is with the understanding that they will continue this discussion. Now people might think that's long but if you're going to do that anyway, then in might be worth doing. One of the other things that they need in Greater Wellington is a social scientist because their lack of social science people is just appalling. And so that they can look at the process and we can get good results.

Interviewee: Ngāti Kahungunu 5

Interviewer: Breanne Happell

Notetaker: René Jacques

Observers: Breanne Happell and René Jacques

Location: Wairarapa Moana Masterton Office

Date: February 2, 2016

Transcriber: Breanne Happell

So you described a little about your occupation, but can you go into that more?

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How long does it take you guys to get up there?

We normally drive down to Wellington, which is an hour and a half, fly up to Taupo, which is an hour's flight, or if you intend to drive it's anywhere between four and five hours. One way.

When was the last time you visited the lake, or do you use the lake for recreation at all?

We quite often go down. I like to go down and take photographs, of the lake, because we might use them on our annual reports, and in our reports of some type. So I like to get differing views of the lake, and that... it changes a lot, so you get a whole lot of different... looks on it. Other than that I just go down for recreational. Take the family down, the grandchildren, and that. On the occasion we may do some tours. We have a Māori land court that is based in Hastings, and they quite often bring all their staff down here, and this office will take them out, and take them for a tour around the lake. So, we still have quite a strong relationship with the lake.

So what are some of the history of your family in this region?

My family? Well, several of my tipuna(sp.) signed the deed, for the lake, so that's my relationship with the lake. So, in essence I am a shareholder in Wairarapa Moana. So that gives me the ability to ensure that what we're doing here in the office is suitable for all the shareholders. My family on my father's side is tangata whenua(sp.) here out of te oriori(sp.). So they, his family, has always resided in the Wairarapa. We come down both iwi, Rangitāne and Kahungunu, on my father's side, and on my mother's side predominately out in the Gladston area, so that's where her marae is, Huihuiorangi(sp.). And again that comes down the main iwi of Kahungunu and Waitahu. And quite often people will say Waitahu is South Island but it's not absolutely correct because they actually traveled down from the Gisbon area so you'll find that Waitahu comes all the way down the East coast, Gisbon, Hawkes Bay, Wairarapa, and then down south. Yeah so, born, bred, and lived here for most of my life, although I did go away to the Hawkes Bay for 7 years, in the early 2000s, or late 1900s. And in my, when I left school I lived down in Wellington so, haven't ventured too far away.

What brought you back to this region?

Probably my family. More than anything else. My husband and I were up in Hawkes Bay and we decided that it was really lovely living there, you didn't have to be involved in Marae, you didn't get called up at all hours of the night, you know, can you do this, can you do that. It was quite an independent place to be. And then we decided that we needed to come back and to bring our skills back to our community that had guided us in the earlier days. So yes, so that's why we're back. When we left town, our children, we had three children, we've got three children, our three children left town. When we came back our three children came back so, it's like not being able to get rid of them. It was really about coming back and supporting our family and of course our marae we're both very active on our marae. And have been for many years.

So going off that some, what does the Wairarapa Moana mean to you?

So, Wairarapa Moana, first of all let me just explain that Wairarapa Moana is not just Lake Wairarapa to us. Ok, so in our history it's a combination of three of the areas down there. So you've got Lake Wairarapa, you've got the Ruamahanga River that went between Lake Wairarapa and Lake Onoke, and then you've got Lake Onoke. So when we talk about Wairarapa Moana that's what we talk about. We talk about the existence of that whole relationship, as opposed to them being singled out. And of course, you know, when they diverted the Ruamahanga, well that was a bit, well our people fought to keep the lake mouth open. But when the Ruamahanga was diverted, our, well my belief is that that's when that relationship was, sort of, dissected, you know? And for us the relationship is all about the wairua(sp.) that connects everything. And so it's no wonder that the lake is the way that it is today because it doesn't have that spiritual, it doesn't have that relationship anymore, yeah.

So, going off the way the lake is today, what do you think about the water quality in Lake Wairarapa?

Throughout the whole Wairarapa, as far as I know, this is my knowledge, our water quality is not great at all. Let me just explain, and you probably know this, is that, all our marae were either on waterways or close to waterways so, our waterways were very significant to our people. And if you have a look at the Ruamahanga, it actually starts at the north of Wairarapa and goes right through to the south Wairarapa. So that's an integral part of who we are as people, and an integral part of the water way system. Years ago we always used to swim in our rivers, you know, there was nothing to, as soon as daylight arrived we head off down to the rivers, we'd be there all day until you couldn't swim anymore. Well, you know, all those things have been lost because of the water quality, and there's a whole lot of reasons for that, you know? A lot of it has to do with farming, you know? A lot of it has to do with nutrients, obviously. But also a lot of it is to do with the taking of the water from the waterways. We've got a waiata(sp.) that talks about all our waterways out at Gladston, and four of those waterways don't have water in them anymore, simply because they've either been diverted somewhere else, or they've just dried up, you know? So why have they dried up? That's the question ay? Why have they dried up? Because that's where all our mauri(sp.), that's where our life force is within our waterways, and the quality of waterways is, really, really needs something done about it. The, Lake Wairarapa, I mean, it's quite sad because it's like a dying

waterway. It's not pristine, you know, it doesn't have a life energy, and it's probably all the practices that's happened over the years that has, as well as I mean, we believe that also it was the diversion that created that pathway to where it is now, yeah.

So you hit on it some, but what are some of the other effects that the barrage gates and the diversion have had on the region?

Well I've never lived down in South Wairarapa so I'm probably not that great at answering that. The barrage gates, my understanding is the barrage gates have contributed to the decline in our eel population. And I know that there was at some stage a, tried to rectify that. But yeah, it is it's about is there an alternative method to do what it is that the barrage gates now are doing in order to replenish the life that is now either no longer there or there in small amounts, cause that's really interesting, but we have a life, in our custom we have a life force that talks about the continuing, not just here, they don't just live here but they continue to other countries, and I mean you know the scientists and all the rest of it know all about that but, if you stop them at a given point, then they're no longer able to contribute to that evolution, I guess it's an evolution, isn't it? They're no longer able to contribute to that. Our stocks and our waterways have died, they've decreased, and it's just about, you know, is there really something else that we can do instead of having this big concrete barrier, that might contribute back to our ecosystem, you know? I don't know, or is it too late, it's never too late. I don't think it's ever too late. There is always a possibility. But yeah, that's the detriment I think of the barrage gates is around the sustainability of our tuna, you know, our fish, the life that goes back out into the sea in order to come back again into the land. Yeah. So that's quite a sad place to be when you're talking about, you know, these are our spiritual pathways.

So do you feel like the Māori opinions are incorporated into the flood protection plan?

At the beginning no. Definitely not. Because if that was so we would have ended up with something different. So I think right back at the beginning there may have been a better communication, or understanding. I certainly think that now there is a better understanding of mauri, there's a better understanding of life force, there's a better understanding of our culture, and how important things, other than, you know, people, how important they all are to us. But I do think that there is a better understanding these days and I do believe that there is a willingness to look at things that might provide a better option. But in saying that I still believe that everything is determined by finance, so that's the sticking point. Yes, this might be a good option but we won't go there because it's too dear. But it's not just simply about the dollar, it's about the value of what comes out of that so they might not be a financial gain, but there might be a gain in a whole lot of other areas, which is not being recognized.

So how do you feel about farming in the region, and around the lake specifically?

I know that farming is our economy, yeah... and I would hate to see that there are wide restrictions on farming around the lake, because some of that land is good farming land so it makes sense if that's what the economy is about then it makes sense to embrace it. But in saying so, I think there's too much nutrient going into the waterways, so there has to be some

sort of practice to alleviate some of that. But yeah, I'm not for say, right, no farming around the lake, you know, that would be a bit drastic. But, for looking at options where we might be able to mitigate the nutrients in the water and all those sorts of things and you do see the stop down at the lake edge, you know? I'm also aware that, you know, if we say look fence the lake, just how expensive it's going to be, so it's got to be some give and take by, I don't know what the answer, I honestly don't know what the answer is but we have, I do believe that we need to look at decreasing what's going into the lake, because it is polluting the lake. When I was a child, you could see your image in that lake, you know? Now you look in and you don't want to look at what you see, you know? And that's, over those years that's a big turn, it's a huge turn. If it was like that in the beginning, why can't it be like that now? It's just about learning what we're doing, our roll, and embracing some options to make it right again.

So what are some of the main changes you would want to see to current flood protection plan?

Well, it's, I'm not really very clued up... and I've not lived around the lake itself. So those that are down there will probably have a better outlook on... I can think of one man that works down there at the moment that probably should be sitting here in this seat at the moment, you know? And he'd just be great to interview. But whatever, things change it's a bit like, we were involved in the sewage ponds here in Masterton, and the plan was this, and we keep saying no, no, you know, this is a different era, we should be doing this because this is going to give us a longer lifetime on what's happening and also it's better for the land and it's better for the water, so I'm sure that there are options that we may not be thinking of now that maybe here in two, three years that would really be what we would like to see happen. Yeah, I think, just off the top of my head and, you know, of the barrage gates, that while the intention at the time, that was the best option for what they wanted to do at the time. I think it's actually been the detriment of the lake, the barrage gates.

Are you involved in a resource consent process for the barrage gates or anything?

Not for the barrage gates, no.

Interviewee: Ngāti Kahungunu 6
Interviewer: Elzani van Zyl
Notetaker: Elizabeth Walfield
Observers: Elizabeth Walfield and Elzani van Zyl
Location: Ngāti Kahungunu ki Wairarapa Building
Date: February 3, 2016
Transcriber: Breanne Happell

What is your current occupation?

Well I am a negotiator for the Ngāti Kahungunu Treaty Settlement in this area and I am also a GIS technician so I do mapping and I do that for the negotiations and I have done that for Ngāti Kahungunu as well.

Are you a ratepayer of the Lower Wairarapa Valley Development Scheme?

I have land, so we have Māori land in that area so I suppose that that is a yes. So I come from the South Wairarapa that marae, Kahunui, is my marae, we have land around there and I am sure that we lease it out in May, the rates have been payed towards the Lower Valley Scheme.

We know that you are Ngāti Kahungunu but are there any other iwis or hapū that you identify with?

My hapū in terms of South Wairarapa my hapū is Ngāti Hinewaka.

When did you last visit Lake Wairarapa?

I was there about 2 or 3 weeks ago, it was a blessing for the waka or our canoe. So on Lake Wairarapa or for Wairarapa Moana?

Well this questions asks about Lake Wairarapa but our next question asks if you do any recreational activities in Wairarapa Moana, so the whole region.

So why is that? Lake Wairarapa is one part of it, Lake Onoke is another part of it, and combined they make Wairarapa Moana, so what is the idea of separating them out?

So I think that the Greater Wellington Regional Council when explaining them to us separated them out, but through our interviews it has become much more apparent to us that the whole region is very connected to each other and you can't just separate them out. So our questions were made before we realized this, so when we interviewed Ra he would always talk about Lake Wairarapa and he would mean both of them he would qualify his questions and say that he means the lakes.

Okay well they are all the same thing, they should not have done that. Well you can't just do that.

Well however you want to answer the question. It has become quite apparent to us that through more interviews that they are seen as the same entity.

Yeah well Lake Wairarapa is part and the barrage gates, they're between Lake Wairarapa and the western end and they are used to control the water both ways. They control water coming from both directions, not just from Lake Wairarapa.

So in the whole entire region do you partake in any recreational activities?

Around the lake?

Yes.

Not generally apart from appreciating the landscapes of the water and the views,

That counts.

I have endeavored to fish there, but not recently.

What is the history of your iwi within the Wairarapa Moana?

What is my association with Wairarapa Moana?

Well that's the next question actually. If you could just provide a brief summary of the history.

Well I will need to go back a bit because I am Kahungunu but I am also Rangitāne. So my history of my iwi goes back to at least to when Rangitāne occupied the lake area. So my Rangitāne side gave the lake to the Kahungunu side. Is this what you mean?

Yes however you interpret the question.

Have you seen the book? The Wairarapa Moana book?

I think so, does Ian have a chapter in the book?

Yes, he does, I have two chapters in there. One is about the iwis in the Wairarapa, I wrote two chapters in the book. Yeah so there is a lot. So that applies to me personally, both of my parents come from that part of the Wairarapa, and I was born in South Wairarapa, so in terms of my iwi connections to the lake it is entire. I trace my origins from Rangitāne.

So what does the Wairarapa Moana mean to you?

So Wairarapa Moana is who I am, it is my identity. I say it's where I come from, it has defined me as a person and in a wider sense as a result of various transactions by our people of gifting the lake to the crown, and we ended up with some land way up in the middle of the north island. When I was 5 years old, I am 65 now, but when I was 5 years old, my parents as well as a

number of other families from around here moved up to the land that we acquired as a result of that transaction and I was brought up there. So that is how it has defined me as a result of what happened down there at the lake that determined my whole life. So what it means to me now is that 30 years ago I was working as a social worker in the government, doing social work, managing social workers, that was my job, and I decided to start a family, me and my wife, and I just finished a social work diploma as well, I did a social work diploma in Auckland, and had just finished that in 1995 and we both decided that our children were quite young, our eldest was only 8 and I felt that they know who they are and that they know who their people are, plus a number of my family, they didn't know who they were, so we moved back, well I moved back and brought my children and my family, my wife as well so we have been back for 30 years and my children have grown up here and they are part of the marae. So Wairarapa Moana, what it also means to me is that it is the loss of our, the tremendous loss of a significant waterway that had for thousands of years existed without any human intervention and then to have mechanized it to the extent that it is, is a tremendous loss, is a huge loss. I think that is what it means to me, it is something that somehow there needs to be some balance of the imbalance that has been caused by the mechanization, and to give something back to how it looks after itself naturally. So I think that with the treaty settlement giving as much as they can back of the lake having permanent management that combines equally both iwi and the crown government and agencies I think it's going to give us a more balanced opportunity to restore the intrinsic natural values of the lake.

What other affects do you see that they flood protection has had on the valley area?

Well it has done what it was built to achieve, which was reduce the amount of water, so huge losses of wetlands and combined with farming, what that means for the water ways. I mean the flood protection scheme and inserting the barrage gates to me is a breach of the Treaty of Waitangi. That's not to say that we shouldn't have a scheme but to turn the lake into a backwater, with no flow going through it and the high nitrification that has occurred and is occurring, to me that is a serious breach of what it is that our people understood what was occurring when they gave the lake to the government.

If you had to make any changes to the flood protection or how it is now, what would you change, or what would you want to have done?

That is a technical question, I have some ideas, but that is a technical question that requires for me to have more information, and I would probably answer this way. I see that this is going to be an important question for us in our partnership around the lake with what's there now, but will have new meaning once the treaty settlement comes around. You know that will be important and a critical part of that relationship, you know how are we going to make it work. I could give you some things off of the top of my head but to me we have to go back to square one so what is the flood protection, what is the Lower Valley Scheme trying to achieve, why isn't it trying to achieve the sorts of things that we would like to see happen, like better flushing, why isn't it trying to achieve those things. That is something that we will have to determine. I don't think that we will have to be up to the challenge to deal with it.

What is your understanding of the resource consent process?

Well it comes around 10 maybe, so I am told that the government changes the rules, so there will be a notification, something along those lines, so presumably there will probably be some hearings, something like that depending on who is doing what. So the barrage that is for maintaining the flows of the barrage, so that's what that is for, what levels should be maintained in the lakes through the barrage gates. What was the question again?

What is your understanding of the resource consent process? It is just more to judge whether the people we interview know about the resource consent process. Thank you for your participation.

Have any of you ever done any political studies?

No.

Well you come into a country and what you have here is the political and cultural stances, you know positions, I think what Ian said is get a view of from the community of what the barrage gates means to them.

Yes there is a focus around the barrage gates but we really wanted to design our questions to kind of see the importance of the whole Moana to the people that we are talking to. So we are also interviewing the farmers that are affected by the flood scheme and so we can definitely see the very different approach when we ask question about the whole Moana and just how some people answer from what the farmers might answer and that is what we are trying to point out in our questions. So at our university you have to do some sort of project your third year and it has absolutely nothing to do with what you are studying so we are both biomedical engineering majors, so we both don't know social science things that well, but this is supposed to allow us to reach out of our own little box of thinking and reach out and see the different aspects that are there in the world. So that is why we are here. Thank you very much.

Interviewee: Ngāti Kahungunu 7
Interviewer: Elzani van Zyl
Notetaker: Elizabeth Walfield
Observers: Elizabeth Walfield and Elzani van Zyl
Location: Ngāti Kahungunu ki Wairarapa Building
Date: February 2, 2016
Transcriber: Breanne Happell

What is your current occupation?

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Are you a Lower Wairarapa Valley Scheme Ratepayer?

No.

Which iwi and hapū do you identify yourself with?

Ngāti Kahungunu.

When did you last visit Lake Wairarapa?

About 2 weeks ago.

Do you or did you ever partake in any recreational activities in the Wairarapa Moana?

Yes, not on the lake, just around it. Just walking, wading, and throwing sticks and stones, talking about what happened on the lake.

Could you tell us about the history of your iwi in the Wairarapa Moana?

My family was involved with not wanting to seat the ownership of governance of the lake. They wanted to have it naturally build up and flow and have it be part of the land rather than controlling the lake and what it did. We thought probably that it was possibly a living entity, or that some among. We are at tainted what it did and where it went itself from the main total, apparently they would also go down to the lake seasonally and fish and live on the shore. So it could be described as a living entity. It was a basket of food for them, a source of food. The birds that populated it and the fish that swam in its waters and would go and share its resources with the people. So yeah that's probably what my ancestors said.

So what does the Wairarapa Moana mean to you?

To me it's a heart of the land and of my children. Right now it's not clean but that doesn't take anything away from it, we are hoping that we can get it back to the way it was. Well near as possible to the way it was. It will never be exactly the way that it was because that was a much bigger area, it used to go wherever it wanted and reached far and wide rather than being

confined. But it is still the heart of the Wairarapa which is why the region and the lake is Wairarapa. What does it mean me? Well it's important enough to compose songs about it, to compose haka about it, to tell stories about it. Its resources are used by the people, they had ways to gather those resources. That's what Wairarapa Moana means to me.

How have the flood protection methods changed the Lower Wairarapa Valley?

It has made the water source much smaller than what we were told it once was, it is not the great force that it once used to be but it is still hard.

How was your iwi affected culturally or economically by the flood protection methods?

I guess what happened was that they tried to stand up for themselves when the when the settlers came so that they would have mana over the water and the land around them but that didn't happen and the land was taken away by the settlers and so to retain some mana they gave it as a gift to the crown. Later our gift was recognized by the crown and they recognized that maybe they didn't pay and honor as much as they should of so we were given land up north. And it was wasteland to the government, it was barren, so they gave it, it was hundreds of miles away, most of our people couldn't reach it, it was far away from what was traditionally our land in Wairarapa. We had to go up to Taupo, which was almost barren, and it was another iwi's land, it was probably pitched off of them to us. It didn't feel good, or doesn't sit well with us having it there, but it was given to us, and we eventually had to make the most of it. So we sent a lot of our people up there and they were like red Indians from a reservation. We were told stories from people about how they would actually go upon the train and they would get off and they would have to walk with their packs and kits and blankets all rolled up and everything and walk through the bush to the land that was promised to us. And we were told stories about some of the land that they had to put up just to get there. And once they go there they had to make the land up since it was ruthless, but they found cobalt and by adding it to the land as a fertilizer that they could get things to grow so now the land that was given to us as wasteland is now turned into Wairarapa Moana which is something that we can be really proud of and not only that from Wairarapa Moana we managed to grow dairy cows and we've moved on from that, and a plant that is the Māori word for mild to developing baby food for Korea that is quite profitable. So to go for a place that was out of the way, quite forsaken, and nobody wanted it to be a profitable land is a huge change, something that we can be proud of. Perhaps the only thing that I am sad about is that we couldn't do it here in our own area on our own lands, the land down here, but we have made the most of it.

If you had to rank the water quality in Lake Wairarapa in a 1 to 5 scale what would you rank it as?

Well probably if you asked me this last year I would have said 1 but I have had flounder out of the lake, but it is still really bad.

What do you know about the barrage gates and Ruamahanga River Cutoff?

Well I've been down there, I know where they are. I know about them but for me it is an artificial way of controlling the flow of the rivers, the flow of the lake and that's kind of forcing the lake, which I see as a living thing, like a heart, its forcing it to behave in ways that aren't natural and I guess to the fish and the birds around it, like when they were put up there a long time ago the birds found a place for them but the fish they adapt to them being there and putting restrictions on the lake. But if they were taken away then they would adapt again.

Do you have any opinions on the current levels in Lake Wairarapa?

Yes, I do, to me they are too low, they are not natural, they should be put back to the way they were. To me the European put too much emphasis on economics and farming and polluted our rivers and our lake and now they are trying to restore it. I doubt that they will ever get it back to the way that it was but they will try. I think with the treaty settlement and the government is giving our lake back and hopefully giving us money to help restore the pollution or reduce the level of pollution or try to get it back to its natural state which is better than it is at the moment.

Do you feel that your opinions and the opinions of Ngāti Kahungunu are incorporated into the current flood protection methods?

I don't think that they have been in the past. They weren't because our family had to seat it to them so we weren't taken into account. Lately they have been better but that has probably been more because our values have become more closely aligned with theirs, their values have become more closely aligned with ours.

Are there any other changes that you would like to see within the flood protection plans?

Yes I guess. I would like to have more of a joint say over anything that is decided, so that it won't be just one group of people having a say over what happens with our lake, we will be actually heard. I want to have a say in what actually happens.

What is your understanding of the resource consent process?

My understanding is that it is seen as a way of governing bodies having their own way but seemingly to consult. But I think when they get down to it they get their own way anyways. So whatever is decided if they don't like it then they just change the rules like they do with most things.

Are you aware that the resource consent for the barrage gates is expiring in 2019?

No I wasn't aware.

Thank you.

Interviewee: Ngāti Kahungunu 8
Interviewer: René Jacques
Notetaker: Breanne Happell
Observers: Breanne Happell and René Jacques
Location: Wairarapa Moana Masterton Office
Date: February 3, 2016
Transcriber: René Jacques

So, we'll start off with what is your current occupation?

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Does your farm go up against the lake?

No, I'm one farm from it, so there's one farm and then me.

So, do you do any recreational activities around the lake?

I have done all my life. My grandfather worked on a farm right beside the barrage gates. So where the barrage, have you been down there?

Yeah.

So where the barrage gates are now you come down this side of the river and you go across the barrage gates, as you go across the barrage gates, my grandfather worked on a farm right there. And that was before the barrage gates where there, and I used to spend my holidays down there. I then I been dairy farming where I am for 36 years. And before that I dairy farmed just at the northern end of the lake. So Lake Wairarapa when you go out if you go from Featherston you go to the end of the lake, where that recreation area is, I was on a farm there just one farm back from the lake so I've been down there for a long time, off and on around there.

So, can you go a little more into the history of your family in the area?

Me? Well I actually come from Masterton, from here, but as I said my grandfather worked on a farm down there so I used to spend my holidays down there. And we used to do a lot of fishing down in the lake, and that was prior to the barrage diversion going in. Then it used to just flood over a big area, so it was all just tall fescue type grass which grew in sort of clumps off the ground, cause in order to survive, cause during the winter the floods would have a lot of it underwater, so it was sort of flood, tidal, it was a lot more in those days. But the fishing down there in those days was just fantastic, so we used to go fishing. You go at night with a torch, and catch flounder just by walking cause when the tide goes out the water would only be up to knee deep, and you could just walk along with a torch, and you'd see the flounders moving in the water, and we used to make a spear out of a piece of stick, with a piece of fence wire on it, and sharpen it and just get them that way. Otherwise we used a, how would you call it? A

slingshot, you know? But we made those, they actually worked very well underwater, so we made one up by using a piece of motorcycle tire tube, and you'd wrap it around your fingers and then you cut a piece of fencing wire, about that long, sharpen the end of it, and then you'd put it between your fingers and pull it back and, it'd catch flounders that way. In fact, I tried it, I never thought it worked very well so I tried it in the bath at home one day, and I shot a hole right through the end of my mother's cast iron bath. That's how good they are. And it would go, you could be out the door and it would go right out across the room. Because it's just a piece of wire, so they're quite dangerous actually. When you're kids, you know? And so we used to spend a lot of, we used to catch a lot of trout then, perch, I don't know if the perch where that bad then, but a lot of trout, big trout, and flounders, and I mean we caught lots of flounders, 70, 80, 100. The most we ever caught was 120 in one night's catch. And that was, our nets were made of, in those days were made out of cotton thread, instead of nylon. And we'd just have a net and we used very big mesh in those days, you know, 6 and a half to 7 and a half inch mesh, otherwise you just caught far too many. And you would get flounders so big. So we used to use a skillet type of cast iron frying pan, which would be about that big, and the flounder would hang out of both end, and you had to cut the head and the tail off before you could get them in the pan, because you couldn't cook them, it wouldn't fit inside the pan. And they were huge. So I think the most I ever caught, we ever caught in overnight was about 120. And that was a whole year, enough flounder for a whole year, from one night's setting. So, yeah, so there used to be a lot of flounder, and they were huge, and the little ones were just, went straight through the mesh, so that you only actually caught the big ones. But and so then when the built the barrage gates it changed a lot. But the flounder that were still there, it varied on when the barrage gates were actually open. And I still don't believe they work very well for the fish passage. So then when I went away out of the area for a few years, and then I came back here to do dairy, I was a spraying contractor actually. I did that for 7 or 8 years, and then I went away and learned dairy farming, and then I came back to the Wairarapa, and then I moved to a little dairy farm right beside the lake there. So we did, used to go fishing down there for flounder in the top end of the lake right by the end of the reserve here, where the boat ramp and that is, have you seen that?

Yeah.

Well you go around a bit and there's a creek comes in off the side, and from there we used to sit out there, and we were getting, I think 50 or 60 or 70 flounders in the net then. Before it was in the early 60s through to the early 70s, and then I came back here in about 1980, and we were catching I think 60 or 70 flounders at a time then, in a net. And that would be enough to keep you going for a year. The size had gone right down though. And then they let commercial fisherman in there, and you would go down there and see four or five nets in a string, half a kilometer long across the lake. And within a few years they were gone, you know? They've started to come back again now, but, you know, my son goes fishing down there and he will only get three or four flounders I suppose, in a setting at night, and he's using quite big nets too, 60 or 70 meter long net. And so nowadays you don't get anywhere near as many, but they are coming back slightly. But now you catch a lot of perch and trout and all the fish that have been introduced, and very few flounder nowadays. Because the flounder, as far as I'm

concerned are the only fish I like eating. And the whitebait, we used to catch lots of whitebait too, but that's diminished quite remarkably nowadays too. But it's, you know, the environment's changed over the past 40, 50 years quite considerably so, that's par for the course nowadays I think.

Alright, so what does the Wairarapa Moana mean to you?

What does it mean to me? It's a recreational resource. You can't use boats much in there because it's so shallow. I've done a bit of boating in there but it's quite shallow so outboard motors you can actually hit the bottom, even in the middle of the lake. So we used to take our boat out and our oar was 1.8 meters long and you could just go on and prod the bottom anywhere in the lake, you know, because it was so shallow. In fact my grandfather when he worked there they used to get cattle, would walk across the lake, and he would ride his horse across and bring it back, and that lake is like, kilometer and a half across, and the cattle would wander up there and wander across the lake, and they'd have to go fetch them back. So that's how shallow it can be, when the lake's open to the sea. There's always been recreation, that's about all, but it's changed over a period of time. I think people's attitude to recreation have changed a lot. People stay home a lot more, computers or whatever, and now you're a dedicated band if you want to go fishing. But there are those that choose that lifestyle and will do that. It's just, you don't notice, it's as popular as it used to be. Yeah, no I think it's just recreational. The bird thing doesn't, wildlife doesn't really mean much to me cause it's not anything that I'm interested in. And my farm is actually on the far side of the lake so the biggest environmental problem I have from the lake is that the wind comes off of the hill, over the hills, and hits the lake, and picks up speed as it goes across the lake, and I'm on the other side so, the wind when we get at our coast is colossal at times you know. Not a lot of trees last for very long in our area because they just get blown over. So the wind does, it gets particularly bad where we are, it dries the farms out pretty well.

You mentioned that you worked for a trust out of this office. Can you just go into a little more detail on that?

Well the trust that I work on from here we are an educational trust. And we've got industrial land here in Masterton. And we have a dairy farm in Greytown, at Papawai, down by the park. In fact it's almost in the park. And we have another part of a dairy farm in Carterton. And we, all that money goes to children's education. So that was the land that was gifted originally to the Wairarapa by local Māori groups that were here, for the use of, to build schools. And those schools were never, well were either built and burnt down or were never built. And so the land has always been there, So that trust that I'm actually administers that land. We rent it, lease it, so we have some industrial tenants, and the rest of it's used for dairy farming. And the funds that we make from that, the income goes to education. So apart from administration all our funds goes to education of children, and they buy books or uniforms or go to boarding school or whatever.

So are you of Māori descent?

Yeah. So my hapū is Te Hiko Pakanuna(sp.), and so we come from Akiteo which is on the east coast, so that's the northernmost part of the Wairarapa area. So we go from Castle Point, which is out here, I don't know if you've been out there, and there's a big farm out there, and it runs 17 kilometers up the coast. So I was on the committee management for that until last year. So that's where I come from. So [we are] a coastal family. We're one of the biggest hapū in the Wairarapa.

How do you feel about the water quality in the lake?

Water quality? Well I think the top lake's super eutrophic. So, you know Ra don't you? So I work with Ra as a payed assistant for 6, 7 years. So I know the lake was super eutrophic, and it's always been like that because Featherston's waste waterways goes, and has gone on there for years. And I don't know if that can really be improved because the environment effects it so when the lake was uplifted by the earthquake, it's very shallow, and the mud on the bottom means that it gets stirred up constantly, which means that whatever nutrients and whatever the bacteria in the lake is constantly on the move, because when the waves get going, [they] can be quite big. We get meter waves down there. Course it's actually stirring right from the bottom. So it's constantly in movement, you know, the water? So the water quality, how it's going to be effected, I have no idea, so it's going to be like that for me, for a considerable period of time. Generations. And the dairy factory used to have its effluent going in there years ago, and the town, Featherston, still goes in there. Ra and I worked on that for quite some time to get land based systems, you know, put in pits. But it's pretty hard work, very frustrating. They can blame a bit the farmers not looking after everything but the towns are as bad. So yeah it's a bit frustrating. But the funny thing is that I believe a lot of the wildlife, whatever the environment is they become part of it, so they adapt to it. So where I am at the moment, I have the eels in the creek and I don't let anybody fish in my section. So I have several, about 3 or 4 ks of waterways on my property and I don't let any fishermen go there. The eel numbers have just shot back up over the years, you know? And I feed them actually, I've got a patch at home. If I shoot a rabbit I'll take it down there, throw it and they'll just come along, and I have 15, 20 eels there, in ten minutes, and their big there are some that are like that. They'll just come along and get stuck in. So my cousin came out the other day and he was brave and he said what happens if you stand in the creek and I said I don't know, give it a try. So he stood in the creek with his bare feet, and within a minute 2 of them latched on to his feet. But eels don't really have teeth they have like sort of a rubbing, sort of like very coarse sandpaper, so they just latch on and then the spin to break off the food they want, so it just left a big red mark on his leg where they latched on to him. Quality of the water side, and the main thing that I have noticed, and because the area where I am we have a lot more weed in the creeks there, and a lot of it's, they say it's because the trees, there's no shelter, which is what keeps the sunlight off it, which means, grow out the weed growth, and a lot of that weed growth is imported weed growth too so there's a type of weed called oxygen weed which they grow in, put in fish tanks, you know, for tropical fish? And that, well that never used to be in that creek fifteen years ago, so now it's just a mat of a, and it lives just below the water level so what happens is, it will go down there and put its roots into the mud on the bottom, and then grow up to the water surface for the sunlight. And of course it's thicker, a couple meters high in some places, it just takes over. And

there's other, there's a noxious weed in there, that they're trying to get rid of, they're trying to spray, and I think they've got permission to spray that now. Yeah so the weeds have become a problem over the years. And I have got, a lot of shelter on my farm... you always plant on one side [of a creek] but you have to plant it on the up sun side. So if you plant it, if the sun comes up in the East and goes down in the West, most of the sun's in the afternoon, so I always plant on the western side of all my creeks, and that means I shade it for most of the day, because the sun in the morning is quite cold, it doesn't get hot until midday, and it's the shade in the afternoon that makes a difference. I always plant on the western side of my streams and that makes a difference. If you grow on the east side the weed problem doesn't disappear at all. So it makes a difference so. But to plant the trees, well I've been growing trees for Greater Wellington, I've got lots of trial boxes on my property. So as the different varieties, as they've bred them I've been test planting them on my property and some of them are terrible. A few of them are alright but most of them because they don't know how they're going to work until they try planting them, is they'll sucker, you know they'll send off, and they come up everywhere. The weta gets in and eats them, and then the snap off and fall in the creek. Otherwise they branch too much, and you end up with all these multiple branches on them which then break off in the wind. So they've got newer varieties that they've been growing all the time cause they've got nurseries, have you seen the nursery up there? Nursery just on the edge of town here, where they grow the trees.

We haven't noticed, no.

So they have there and then they cut them off every year and cut poles, and plant them. So the new varieties now are much better, so they grow more like power poles, and a lot smaller side branches, which still give the sunlight protection but don't grow these big massive branches. The older ones side branches would be as big as the main branch, and they just break off and cause problems. So they've been a lot better so I'm still planting those, and I plant a lot of natives but the trouble is any type of native plant takes 20, 30 years before it can become any sort of effect for sun protection, light protection to stop the weeds. Yeah. What else? Getting off the subject a bit.

Do you think the flood protection has benefitted the area?

It has. And the barrage gates make a difference. But the management of the barrage gates, so when I last worked with Ra, we were looking at the barrage gates and I thought the management isn't refined enough. So when they put them in originally they were monitored from Masterton, and I don't think they actually, I don't think they're open enough. So what they do is the barrage gates have got fish passages in the side and there's actually a fish passage in the barrage gates itself. But if you actually stand on the barrage gates and look, the flow through there is terrific. You can actually see the, because it's only a small fish passage. So what happens is, if you go down there, from now until, so the young tuna, eels, they're coming up stream, and if you go down there later in the afternoon you can actually see them right on the edge of the barrage gates, hundreds of little eels, you know, I'm talking this big, trying to go upstream, but because the flow in the fish passage is so great they can't get through it. So they

just stay at the barrage gates, and then because there's so many pest fish, now that you've got perch, and trout, and mullet, and kauwa(sp.), they eat all the [], that's their main diet so, because they have to wait there to get through the gate, they get predated on, and when you go down there in the evening the fish are just going nuts, having a great feed of all of the eels and whitebait and that type thing, inangas that are huddled up there. So I think when the river is in a neutral phase they need to have the gates open more, because I can't really see the point in it, in having them shut, because what happens is when the tides going out there's a huge draft pulling water out, and when it goes the other way it does the opposite. So the slack period is only a half an hour. So in that half an hour those eels that are lining up to go through there can't, a lot of them will never find that fish passage through there, and so in actual fact I think in those periods, perhaps an hour before and an hour after, the full tide, those gates could be open, especially when the seas closed, the lake mouths closed, there's very little flow backwards and forwards, but it's still enough that the fish can't get through, and so in those neutral phases I think those gates could be open a lot more. But it's all micromanaging it, and so they're coming out for a new consent, in the next 2 or 3 years, and I think that they should actually be doing a program, and it means that somebodies go to sit down there all day and watch what goes on but that's the only way you can actually see, how it works, and I think it could be managed better, So I will be interesting to see how they come up with that program. And so I believe that that's, now when they put commercial fisherman in the top lake, they don't allow that anymore that's now been stopped, but I think that it pulled the numbers out of flounder out of the lake, because they were commercially fished and the numbers got too small, the size got too small. And they're having trouble rebuilding those numbers again, because the barrage gates actually make a difference. The numbers are going up again but at a much slower level than the probably would naturally if the gates were open more often, but so I'm on the top side of the gates, and then there's a large stream, there's Tauherenikau River comes into the lake and then there's two ground flow streams on either side, so one of those ground flow streams comes right through my property. So what happens is the river down but it has a high amount of gravel in it, and so that gravel gets washed down the river every year it moves further and further down the river, so the rivers almost stopped flowing now it's getting quite low, and it will actually just stop flowing altogether, but it's under the gravel, because the gravel is so high. And so I have farmland on the eastern side, and so what happens is there this place where the water just blasts out of the ground, because we're slightly lower than the river, and so it actually river water that's actually below the bed of the river, so it'll keep flowing all year round. And the old Tauherenikau River actually used to flow through my property. So before the barrage gates were put in they actually moved the river as well, and that old river bed goes through my place. And that's at a lower level than the river, where it is now, because over the years the gravels been built up. So we try to get the Greater Wellington to take the [metal] out and it's a very good quality [metal]. So in Wellington over the Ruatakas(sp.) they have very little... hard [metal] and the use mainly limestone type rocks... quarry over there but it's quite expensive. But because the practicality of it we can't, it's expensive to cart it over there. But it's real good quality. And they used to cart it over there every day, but the way finances are now is they just don't do that. They cast sand over there for making concrete. But actually carting [metal], that doesn't really happen anymore, but it's used around the Wairarapa. So Greater Wellington have licenses for gravel extraction, and most of that now

comes up here, and it's used for, crushed for road [metal], you know for making. So that's what most of it's used, but it used to go over the hill a lot. And so, what happens is those gravel beds build up over a period of time which makes the river diffuse and go through the side, and so what happens is you'll get islands of gravel in the middle, which means there was a push out either side and it gets to the stage where then, instead of flowing down, [it] bounces all the way down the river, and so the Greater Wellington have got to... try and take those kinks out. But all the fishermen complain because those kinks are deep holes where the trout and that sit, you know. But, what happens is that, during the winter, when the rivers get higher they just pound the banks on either side, cause a lot of damage and make the river a lot wider than it needs to be. But that's something we deal with, you know? When the consents come up they have to try and appease us, the farmers, and then the fishermen, and then it becomes a them and us, you know, so they're always looking what the dairy farms are doing and picking on us, how they want everything restored to pristine conditions. But I find it quite amusing because what happens is it's really only the flounder, the whitebait, and the tuna, the eels, that actually live along there. The people that are most concerned are the trout fishermen, the coarse fishermen, the perch and trout, and perch, and rudd and all those, and they're introduced species. And they talk about trout being an important fishery for New Zealand, but they actually are an introduced species, and they eat eels, and they eat baby flounders, they eat anything. And so in actual fact what they're doing is they've adopted the environment, the fishermen have adopted the environment how they see it working for them, to their benefit, whereas I'm looking at the other side saying well they're, the trout are as much a pest fish as the tench and the rudd and perch and anything else, and they're actually impacting the environment and the lake as much as any other fish. We're getting salmon in there now. I've caught salmon in the lake. So they put salmon farms in in the Marlboro Sound, which is across Cook Strait, from Wellington, and that's 40, 50 km away. And a few years ago one of those salmon farms collapsed. One of the boundaries, you know they have floating salmon farms, and one of the nets collapsed and they got out. And so they've spread all around the place, and it's amazing they are now coming out across Cook Strait and swimming up the rivers there. So it was quite surprisingly fast, you know these are, what do call, not naturally introduced. So it just shows you the environment can change very quickly if, you know, in a very short period of time. And that's one of the things I'm worried about is the carp. They're saying they'll introduce carp, they'll eat the weed, but they've got a sterilized variety that won't breed so there won't be a problem, they won't get out so, they basically introduced them to Lake which is just over here, and they've got a lot of weed problems so they're trying to cut them out, and they'll set them off underwater, and then it floats up and goes in the river and washes away, and so they introduced carp and said they'll be fine they've got a screen they'll never escape. Well, they're in the lake too. And they say they can't breed, but they're still there, you know, so, we're hoping they're 100% sterilized and not, you have 1 or 2 that aren't and then you'd have another problem. And carp would be horrific down in the lake, because they're like lawnmowers so they just mow everything, and they would actually cut the weed off and it'd be torpid all the time. It would really severely decrease the water quality. So it would be a bit of worry if carp get in there. So, they've been introducing carp all over the countryside. Different regional councils have different policies. So when you go up the country quite a bit some councils allow carp to clean up the waterways, and because they don't want them dug out, so they'll introduce carp

but those carp spread around. It's a bit of an issue. And rudd and tench which are coarse fish, from the UK, they've been introduced here, so that's actually... an environmental disaster, some of those types of things being let go, but we, as a farmer we get bashed all the time about how we're causing the nutrients to get in the waterways and stuff, but we haven't been able to put any nutrients into the waterways since 2004, was the last consent that I know of, that had any nutrients going into a waterway, so we're all land based. But the towns still put their effluent into the river. Masterton here has just spent 40 million dollars building a new system to take the effluent out of the water, but when the rivers at medium flow, they let them put it back in the river. So why spend 40 million dollars and then put it back in the river? Just crazy stuff. But that's just another thing we're working on. It's life. Things are changing. And the thing that concerns me most is everybody has become more environmentally friendly and clean, and they want all the waterways cleaned up. And my point of view is, it took 100 years to get to the state it's in now, if we can wind that back 50% in 50 years, it's a win, and you can't do it today, you can't do it tomorrow, it's a generational thing. And people just say well, take everything out of there, get rid of this, take the cows away, take all this away and it will be pristine tomorrow. That's a load of rubbish, it's not going to happen it has taken an awful long time, 100 years, for that process to evolve and it will take damn near as long to reverse it. So I have some issues around that because we get attacked constantly as farmers, about our environmental footprint. So I milk, how many cows do I milk now? I'm at 560. So I'm certified organic. So I have been for six years now. So my environmental footprint has been a lot less than everybody else's so I don't use any pesticides, I don't use any fertilizer, weed killer, sprays. I'm not even allowed to use treated fence posts, treated timber, anything like that. So they're pretty tough on how we do it. I even use sawdust for the bedding of my calves. I can only use untreated sawdust. I have to get a certificate to show that it's untreated. So it's a very tough regime to follow. So I supply [Fonterra] with my milk. And I get, they can audit us 4 or 5 times a year. And I have my own certifier which is Biogrow, one of two organic certifiers in New Zealand. And they can audit you up to 5 times a year. And then they got Greater Wellington can come and look at anything you do as well so, the monitoring is, can be pedantic, and pretty strict. Biogrow who I get my certification through are extremely tough. So what they do is, you have to have all your bookwork up to date within seven days. And they can just ring up and say well I'm going to audit you tomorrow, and your bookwork can only be seven days old. So every time a tractor comes on the property, a contractor anything like that, they have to sign a certificate to say that they've steam cleaned their vehicle. So if I get a man come and plow a paddock, he's got to steam his gear down before he comes to my property, seed drills got to be air blasted out, my fertilizer, when I get it, so my fertilizer that I get, rock phosphate, things like that, a humus type fertilizer of fish oil. So the orange ruffly which is one of the best the fish that they use at the moment for export, they bring the bodies back and they take the oil out of it, well they crush it up and make fish oil and I spray that on my pasture, or... seaweed which is a fertilizer. And so I've got a center pivot so I can put 1000 liter pot under the pivot, and I've got a, what do you call those things? I can dial it up... put how many liters per hour I want, just coming out through the center part. So I do that as well so. Our environmental footprint through Fonterra is about 80% better than average. So I'm very low compared to what the average dairy farmer, farmers in the Wairarapa. So I do my bit, but I do get frustrated at times by this worldwide attitude to we want everything clean and green tomorrow. And I understand where everybody's coming

from but it's just not going to happen, it's a matter of do it properly, do it right, and do it first time round, and the trouble is, there's a lot of people, as I said about the trees with Greater Wellington, they jump into something because there's this perception that we can fix it tomorrow, and it can actually end up being a worse problem than the one that your trying to fix. So it needs to be done properly, carefully and lots of trials. And so I've just built a wetland for Greater Wellington at the moment. So under the water here is, that goes into the lake is taken out of the river the Waiohine which is, the next river up from me. So, where I am we have the Tauherenikau, the next one up is the Waiohine, and then there's the Waipoua and the Ruamahanga, and so the Waiohine goes through Greytown, and I take water out of there and put it through a waterway system. So it goes through a hundred and seventy farms. And that's been put in 60, 70 years ago. And so that was just an open channel for water to flow, and so that comes through my property as well. So that's been going on for an awful long time but now they're saying oh, the stock drink that water and they actually stand in it and that's become a part of the problem as well, but the groundwater's, and a lot of the groundwater's that the council will say oh get rid of that situation, take away the water, that means then that everybody's go to build wells for water and there's not enough water to drill. And so I've got a bore down to 35 meters and I only get enough to run 8 500 liter troughs. That's all the water that there is, you know? There's scree from 15 meters down to 35. And that's all the water I get out of that area, so the water table is quite low anyway, it always has been in the area because there's a lot of gravels. Yeah, so there's a lot of interrelated things that are not an easy fix, and the lake is the recipient of everybody's good endeavors and bad mistakes. And all of the roads of course, all of the storm water goes into the drains which go into the waterways, that's all the creeks that will all end up in the lake anyway. So, people say, well stop the dairy farmers putting effluent in there and it won't, but farmers haven't put effluent in there since 2004. But the storm water still goes in there every day. So it's an environment that everybody's got to fix, not just some of us. And one of the things they looked at is stock and grow, and I think that eventually that's going to become the crux of the matter is how many stock units that you run on a piece of ground. Because what happens is a lot of farmers, I don't know if you saw it today Fonterra, our payout just dropped again, we got a ten percent reduction. So Fonterra pays a set price for the milk, and I get payed a dollar seventy-five on top of that. Then the milk price goes out and then they pay a premium for my milk. So my milk goes to Auckland every day, from here, every day, 500 km. Everyday trucked to Auckland. 6 days a week it goes to Auckland and the last day it goes to... Dunedin, which is 1200 km away? And it gets made into ice cream down there for the Japanese market. And the milk that goes to Auckland goes most to the states now, two years ago it was all going to China, as I say there's more millionaires in China than anywhere else in the world, and actually the wealthy Chinese... and they were buying all of our organic milk, and now that's sort of eased off a bit and now most of it goes to the states. So then Fonterra bid at 5 dollars a kilo for the normal milk, and then organic milk is bringing 9 dollars 90 or something. So there's a severe increase in value added product, so eventually Fonterra is going to have to look at the value added to get better returns from farmers. So we just make milk produce, send it to countries and they make whatever they want out of it. So, we need to upgrade what we do. But of course what they've done is they need more pollution from making those products. But anyway, that's the future, what the future holds. Yeah, got a bit off the subject, sorry.

Are you currently trying to get any resource consents or do you have any resource consents for your farm?

Yes, I do. I've just done my effluent one at the moment. Because I'm in the environment of Lake Wairarapa, within a boundary they've set, I have to put effluent ponds in so you have to put ponds in that will take 90 days holding of my effluent. So at the moment, what I do, so at the moment because I'm organic I spray irrigate, and I also have a tanker. 10,000-liter tanker. And so what happens is I have 300 hectares, and what I do is I've got two dairy farms side by side, and I have a runoff over here, a runoff over here, and another runoff over here. A runoff's set aside land, so we cut that for hay silage, and put the cows there in the winter. And so, what I do is I'll cut, so I grow... alfalfa. So I grow that there and I will stir my effluent ponds up sometimes, and I cart it to the alfalfa after I've cut it. So I cut it and then spread the effluent on it, and it just goes nuts. Because it's a gross feeder of nitrogen and nutrients, and it just goes mad. And it works very well. So because I'm organic, when you grow alfalfa you can't, alfalfa won't really grow unless the seeds are treated, because it uses nitrogen in the soil and it's got to have a, be treated to it will take the nitrogen up. But because I'm organic I can't use treated seed. So I just have to use bare seed, which means that twenty thirty percent of it won't grow. So then I have to put, feed it more. But I can't feed it urea or nitrogen because that's a no-no in organics. See what I mean? It puts you between a rock a hard place as to how you actually use it for fertilizer. So the effluent makes up a big part of that, spraying it on the paddocks. And diffusing it on a much larger area. So I've just got a consent in at the moment to build effluent ponds so I'm going to have, that'll be 90 days holding. So I'll then put a screw press in and take the solids out, and then irrigate that water. And also... with LIDAR, and found area which are best suited to put that effluent on which is different to what I'm doing now. So... they did a LIDAR survey over the last few years and now I've got it all mapped for the whole Wairarapa, so that actually helps farmers to make better decisions on where we put our effluent, instead of just close to the shed and the best paddocks, it's actually the best soil that can handle that. So we're all becoming more environmentally friendly and we're following the rules they've set but it's horrendously expensive. Nothings cheap, and when you want to move your effluent system like the ponds I'm putting in that's, I think the ponds alone cost me 130, 140 thousand dollars to put the ponds in. And that's without any pipelines and new paddocks set up to put it on. It's expensive. But that's life. And Greater Wellington have been reasonably good so they're rolling out programs and giving you time to do it, because financially, if farmers were forced to do it this year with the payouts so low some of them would actually go broke, have to sellout, because financially they just couldn't do it. So if you get a lead in over a 3 to 5, 7-year time period to say well, this day, this is going to happen, that gives you the opportunity to work towards it, so that you know that you've got till this date to get it. And you can actually set funds aside. So that's much better way of doing it. Waving a big stick at people just gets their back up and you just become confrontational and they end up in court and whatever and putting the stick and saying this is the way to do it is much more helpful and everybody's willing along too. And I have to say that I've done work with Greater Wellington, and they're a pretty enlightened bunch down there. There are people there who drive you nuts. And I have to say it. Most university graduates, what happens is, in the situation were in nowadays university graduates will leave university and look for a job, and they'll work for a quasi-government department to get more

qualifications to move on to what they do. And a lot of them don't really know what they want to do, so they'll go there and usually whatever their doing puts them in a direction, what their life skill, what they want to do. And so, what happens, is Greater Wellington they've got a big staff turnover, and a lot of university people come down there with brilliant ideas that they've learnt, but they haven't done the groundwork, they haven't been on the ground, so you'll find that most of the older staff that have been there for a long period of time, 20, 30 years have actually been out in the field and actually participated in what's going on, whereas the others have got learning at college but not actually physical on the ground work. And I sometimes find that frustrating. So you get young guys coming in and they say oh we've come up with this plan we'll do this, this, and this and you'll achieve this, and you say well, I've been here for 30 years, if you do that, it's not going to work, you know? Or you need to modify it to make it work. It's a way of listening to what people are trying to tell you, to say well, the guys have been here a damn sight longer than you, and in actual fact they might have degrees but they've actually got degrees in life because they've done it, and they've been in the environment, and a lot of people don't understand that. But Greater Wellingtons been pretty good because what happens is you'll be engaging with somebody and they'll be there for two years and then they're gone, and you get a new one, and you start again. So it can be frustrating at times but, most of the old guys, they're pretty good so, I've been dealing with some of them for 20, 30 years some of the ones that have stuck it out. But, yeah, that's just life, and that's how the world works nowadays. So listen to what the old people are trying to tell you, especially if you're working on the land, or having anything to do with it. Those people have been there an awful long time, and had a lot of stuff, even fisheries experts and that, I'm there all the time, I see it, what's happening on the water. I see what, you know I've told Greater Wellington you guys need to see this, because this is the situation. Because they actually don't see it on a daily basis. And the trouble is, is what happens with us as farmers is we don't like to tell the council a lot of stuff because they'll say, we didn't know that you had that there. Put a blanket around that, seal it off, you can't do that anymore. You know, might as well just keep it quiet... So sometimes its better not to tell people than it is for them to know... A lot of townies think that we don't look after our land, but I'm not going to destroy it for the sake of making money. I have to make a living off it so I farm it to the best of my abilities, and it's only mine for a short period of time, I'll be dead and gone and then I want to sell it, pass it on to somebody else, so I'm not going to destroy my inheritance and property, it's going to make my livelihood, but people have got funny ideas at times. People would like to say I'll come to your place and inspect your waterways and creeks and tell you and all these sorts of things, but I'm not going to go to somebody's house in the middle of town here and say, you plant that in your garden and you won't do that on your section but everybody in town expects me to do what they think I should do. And sometimes it gets very frustrating at times. Anyway I've got way off the subject again.

What changes would you like to see to the flood protection scheme? Like the barrage gates and the cutoff and just the way they manage that?

To tell the truth, nothing. I'd like to see the barrage gates better controlled. I think more micromanaged, and think if they did some more fisheries work they would see what the issues

are there, for the future. I think the lake, by all farmers having fenced off for more than ten years now, any waterways that the waters are cleaning up. Most of the problems we have like weed problems, pest weeds that have been introduced, and we can't really do much about that. No I'm pretty happy, with the region. I have water rights, I irrigate. So I have 3 irrigation systems going. So I use 120 liters a second, a day, over three farms, over three properties. And now, we're on restrictions at the moment so at the moment we are irrigating every second day, and we cope. It's not our ideal world, but we can cope with it. And that's life. So we just have to adapt our systems to better manage it that's all... No I think I'm pretty happy with the system, the way it's working. I just think the barrage gates need to be managed more. And they're spending more money on the environment. I saw the spreadsheet come out the other day with all the money they're spending, and I'm pretty happy with it. Yeah.

Interviewee: Ngāti Kahungunu 9
Interviewer: Elizabeth van Zyl
Notetaker: Elizabeth Walfield
Observers: Elizabeth Walfield and Elizabeth van Zyl
Location: Ngāti Kahungunu Ki Wairarapa Office
Date: February 3, 2016
Transcriber: Breanne Happell

Can you please tell us, what's your current occupation?

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Are you a Lower Wairarapa Valley Development Scheme ratepayer?

Probably lower...

I mean are you a ratepayer in general?

Oh, no

Which iwi and hapū do you identify yourself with?

I identify with two, which are Kahungunu Wairarapa and Rangitāne Wairarapa, my hapū are both Ngāti Moe and also Ngāti Hamua.

When did you last visit Lake Wairarapa?

About two weekends ago.

Do you partake in any recreational activities around the lake?

Not in the Moana itself, probably just driving around it.

Can you tell us a little bit about the history of your hapū in the Wairarapa Moana?

What probably relates more so to, well Rangitāne and Kahungunu are part of the Ngāti Moe but it's more a joint treaty, they've kind of taken that part Kahungunu has, but both iwi have a role to play in Papawai Marae and Ngāti Moe. My mother's family are from Papawai which is part of the Moana, the Wairarapa Moana, my mother's phanu(sp.) had a lot to do with the land around that area manihera te(sp.) and also who's related to Rangitāne. So they were instrumental in negotiations Papawai is known as the first Māori parliament with the cotainga(sp.) movement and so. On the Rangitāne side not so much involved into the Wairarapa Moana but definitely prominent and religious movements in the area at the time. Very transient my people, you know, they never stay very in one place at one time, seasonal, cause Wairarapa Moana was a great source of kai back then and food and trade. So huge.

What does the Wairarapa Moana mean to you?

I think it's quite controversial in some ways how the land and the lake itself had been taken from us through the land confiscation. It means a lot to me in terms of trying to restore it back to its original, or at least try to, and sustain that lake. The reason why I'm passionate about it is because I know that there's a lot of food sources that have been depleted through that pollution, farm runoff all that sort of stuff, and I know there's been huge focus on trying to get the wetlands back up, get our birdlife back in there, have our tuna be released and the runs from all the way back to Lake Onoke and having that feed our Moana again. I'd ideally like to see us be able to fish there and not have our lakes be so dirty. Ideally I'd like our river to be restored, the Ruamahanga, or in some ways given that the eels aren't able to come back and forth and there's only a small amount of room for them to be pushed through the gates again, it's not enough, it's not enough. There needs to be more, I don't know, penalties given to those who are actually doing some real damage to our rivers and our waterways.

How have you seen the flood protection methods impact the valley?

I have in terms of our wildlife.

How do you think your iwi has been affected both culturally and economically by the flood protection methods?

Flood protection methods there's probably an ongoing effect from the displacement of the people because then you've really got to have a say back then. Hugely in terms of displacement and there's just no more information about what education around the lake that's implemented into our schools although that's being dealt to right now. The displacement of our whanau from the lake culturally affected us because we no longer know how or some of the histories or stories around the lake. There's also in terms of our wildlife we don't know anything much more around it I mean or back in the day how our whanau survived, just there's not that many people in that area that actually live there anymore, all of those families have moved and along with it the knowledge and the history of the lake the stories have gone too on how our whanau have lived there. Only a few families would know that but yeah it's a great loss for identity.

How would you rate the water quality in Lake Wairarapa?

It's pretty yuck. I think a good day for Wairarapa Moana would be when you're on the train and then the tunnel is right there and you can see how horrible it is.

What do you know about the barrage gates and river cutoff?

Not very much, just information about what Ra has told us. I've visited there and I've been there but it's kind of sad because you see, it's not any great thing really, we want our rivers back, but then you know why was the barrage gate put there in the first place? I don't know. I really don't know. I'd like to see it gone. I'd like to see it so that we can...and you know if it

floods, it floods, and let nature do what it's supposed to do. And I think we've just allowed it to be because of economics really, it's dumb, but then I'm not the one that has to live on the land out those ways and be affected by it you know flooding and all that sort of stuff. But you know that area used to be a highway for waka going in to trade with other iwi, with other trades people you know, it was utilized as an area to trade. Why can't we just allow the lake to be what it is? It's superbly been drained off anyways for that farmland. Who is benefiting from it? I can sure as hell tell you it's not our people.

How would you change the management?

Yeah, like I said really let it do what it is naturally meant to do, we can't stop nature, it's just pretty powerful source, but allow our wildlife to thrive you know, we're just overcompensating to help these farmers out. I'd like us to have our wildlife our birdlife come back and our tuna running throughout our waterways and educating our whanau on our tuna, much of the real food source it was for our people and still could be, potentially it could be opportunities for business and to grow that side of things. I've had eel pad thai it's really not nice, but you know (laughs) there's opportunities for business good opportunities, you know tourism, eco, awareness as well environmental awareness, huge.

Do you feel as though your opinions are incorporated?

No, there's not much consultation and if there is it's just tokenism to be perfectly honest. It's a form of tokenism and it's just like yeah we've checked that box with the Māori and yeah we've told them what we are going to do but they don't really know whether or not we are really going to do it and if we do decide to do it we will just do it anyway you know. For the people that really live down they need a say too, it affects them as well.

What do you know about resource consents?

Takes a bit of time (laughs) takes a long time sometimes. I think submissions there either here nor there really depends on who is paying the most money to get the fastest decision and even then that's not the greatest. I don't think iwi get to have a lot of say in that type of thing as well, you know that kind of authority.

There's this element of tokenism in saying we've talked to the iwi, when who the hell is the iwi?, it's not just a few people around a table it's a huge amount of people, who right now are quite passionate about what they want to see their waterways to look like and how they want to go out and fish, there's that recreational fishing as opposed to commercial fishing, I know that there's commercial opportunities, marine protected areas act, and the tuti phenua(sp.) bill conservation, so there's a lot of things happening at this time, really good decisions on our lakes and our waterways are being looked after. It's not just with the barrage gates, I've been up the top of some mountain and looked down at where you know you can see Lake Onoke and then you see Lake Wairarapa and you see where the river diversion is and there's just this huge sadness, you see where the river was so key to helping flush out our lakes you know and not have the algae bloom and all this stuff happening and it's happening because there's so much

crap and everything in our waterways at the moment. The best place to go swimming is in the mountains, because it's the cleanest. We are unable to swim in these rivers because of the absolute crap that's coming through the runoff, and it's not just the farmers everyone is blaming the farmers, but it's not just the farmers there's a lot of things that are being put into our waterways we don't even know and our children and our families are still swimming there and they don't know.

Interviewee: Ngāti Kahungunu 10
Interviewer: Elzani van Zyl
Notetaker: Elizabeth Walfield
Observers: Elizabeth Walfield and Elzani van Zyl
Location: Ngāti Kahungunu ki Wairarapa Building
Date: January 3, 2016
Transcriber: Breanne Happell

What is your current occupation?

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And are you a lower Wairarapa valley development scheme rate payer?

No.

Ok, and so which, well you've obviously identified yourself as Ngāti Kahungunu but are there any other iwi or hapū that you identify with?

Ngāti taniru taniru(sp.), Ngāti kai paripari(sp.).

And when did you last visit Lake Wairarapa?

What, three weeks ago?

Ok, and do you partake in any recreational activities?

Yeah I do, I, so I do sort of the culture stuff around here. So I go down there and I use the water for blessings and things like that, just a whole lot of cultural aspects that I do there so yeah that's what I do.

Alright, So can you tell us a little bit about the history of your iwi within the Wairarapa Moana?

Well you know it is where our identity comes from. So you know, as long as the lakes been here is as long as we'll be here so it's the identity of the whole Wairarapa comes from Wairarapa Moana. That's how I see it and it's the house in me.

Alright, and what does the Wairarapa Moana mean to you?

So, again, to me it's a symbol of who I am. It's my identity of who I am, where I come from, what I do. Yeah it's the, we call it the Mauri, for me it's the life force of the Wairarapa. And so if it's not in a good state then nothing is in a good state in the Wairarapa. Mauri is the energy, the life force that comes out of something, and if that's not healthy, you're not healthy and your land your people aren't. So it's that sort of sense. That's how important it is to me so.

And then, how do you see the flood protection methods have affected the Wairarapa Valley?

Yeah the big thing is that it has brought the size of the lake down, and it has disconnected the river from the lake, and so when talking about the energy forces and the life forces and coming through and interacting with everything else in the Wairarapa, which has affected the life forces in the river, so the river no longer goes to the lake, so how are you supposed to have that transfer of life force from the lake up through the river up and into the valley, how is that supposed to happen if there is no connection to the river. So that's huge, that there is no connection to the lake.

If you had to rate the water quality of Lake Wairarapa where 1 is poor water quality and 5 is pristine, very nice quality of the water, where would you rank it?

What are you measuring against, what system are you measuring it against? Let's put it this way, the water is dirty but the water is pristine at the same time. I use it to bless people, and I take it out of there to do that work, so I do that with the water. When you look at the water from the train it's brown and dirty and there's stuff that's still in there and there's food that's still in there, so there is stuff that is happening in there, so if there's a scale, then what's it measuring, on what scale, that's a western culture scale. But there is food in there so it's life sustaining. Also its life sustaining since it's used for cultural purposes, it has to sustain us as well. So you know in a straight environmental protection I might put it at a two, but as a Māori it provides us with a lot of our spiritual nourishment and those sorts of things so it's a five, always will be, just have to try and keep it going.

Can you explain more about what you know about the barrage gates and river cutoff?

I don't know much about it, they were put up in the 50s or 60s, I don't have a lot of memory of that sort of stuff, all I know is that the key thing is that the cutoff disconnects the river from the lake and that's the most important thing, so that's what they did, they took the water, they separated those two parts in the life force I'd say, that's bad enough as it is. But farmers wanted their land to not get flooded anymore, not a really good reason to me, to disconnect our identity and our spiritual source and all those sorts of things and our life force and to do it because somebody wanted their farm to not get flooded anymore.

Do you have an opinion on the current water levels within Lake Wairarapa?

No, it's a little shallow but it's been a while since I have actually been in the lake itself. I am not the expert on that, as I understand there should be more water in there, but again the key thing for me, and it all rolls around that Māori and that life force and how do we get that quality up and sure there is a Māori spiritual level, and an environmental level, and a quality to be able to eat food out of, all of it is all interconnected, and so we have to think about all of those things which I think that sometimes we can be a bit focused on just the environmental stuff and not really take it into the deeper side of what it is all about, like the stories that come out of it, the stories that describe us, and our people, all of that stuff, so it's more than that I'd say. So you have all of these bloody sectors and one sector thinks it's going to flood my land and another

sector it's good for the ducks and another sector we have to get the eels out of there and another sector is good for us, so it's all different I think.

Besides reconnecting the river back into the lake are there any other changes that you would make to the current flood protection plan?

Again I am not completely aware of the current flood protection plan and what it looks like but we need to ensure that it's not just all about one scale of measurement which we could get stuck in since there are so many different competing sectors again, and what is important to us, that needs to be taken into account as well, so we don't want to flood all of the land and we can try and stop some if we can but you know at what cost? At chance of my cultural, spiritual, identity, my well-beings, as a Māori, as a person from the Wairarapa. Measure against what, my well-being against what your well-being looks like.

What is your understanding of the resource consent process?

I know that if things need to happen then people have to get permission to make that happen and whatever and about how they are going to do it, I have enough knowledge to know what it is, but I don't know the detail of it, but I know what it is and what it tries to do.

Thank you!

Interviewee: Ngāti Kahungunu 11

Interviewer: Breanne Happell

Observer: René Jacques

Location: Wairarapa Moana Office, Masterton

Date: February 2, 2016

Transcriber: Breanne Happell

So I grew up in Featherston, which is the nearest town to the lake. So my personal view is that I am quite sad about the lake. Mainly because my parents moved into Featherston in 1939 and they lived on the main road, and just up the road there was a creek, Donald's Creek, and it ran into the lake. Probably as the clock crow flies, 2 miles away, 3 miles away, and back about 1941 or 1942 one of our little local boys went missing and my brother came home and the town was looking for him and said this little boys bike is up at the creek and for all that we know he could be drowned, and he was he had fallen into the creek, and they found him at the last gate before the lake. And that was quite sad because that family had been quite good friends with my family. And then there was the great flood in around 1947 and I can remember as a little child the waters would back up right behind out house. So this was before the diversion, the barrage gates, and before the spillway was built, so this was early 1950s. And my grand uncle was moving stock since the field was flooded, and they lived quite near the lake, the farm was near the lake, he was moving stock and his horse bolted, his foot got caught in the stirrup and he was drowned. So for me the lake is a bit of sadness. So then it was after that, it was in the 1960s when they did the diversion and they put down the spillway. So that doesn't happen now, the floods. But as a child I remember that the lake was well used, more than it's used today and we were all swimmers so we would go out to the local swimming club and they used to have a lake swim every year and it was one of my wishes that I could take part in it. And they used to have boating on the lake and there was a yacht club on the lake. There was quite a lot of recreational activity there, don't forget. So my personal view of the lake is quite sad.

So do you think that the barrage gates and diversion have been helpful to the region?

Only in as much as it did to stop the flooding. But it altered other things along the way which I don't think generally the population agrees with. Probably for the purpose that it was built it did achieve that purpose.

How much are you aware of the barrage gates and diversion?

I think that it was put there to redirect the water when the flooding occurred. I know that much, but I think that that was what it was done for. And they have achieved that purpose. But that's controlled, when they open and closed the gates, and what it did is that it affected our eel. So that took away from our people and one of their food resources.

Would changes for the future include adding more passage for the eels to migrate?

I think, yeah. Because it was a major food resource for our people and it's just wiped out now really. I think there are one or two commercial eelers, Matt is one of them. The other view I

have is of course working here, and is that Wairarapa Moana Corporation evolved from the lake being seated to the crown.

You were originally supposed to be gifted a different region, right?

Yes that's correct, we were originally supposed to be gifted land here, in the Wairarapa which was more fertile but of course it was because it was so fertile and grew such good pasture that other people wanted it, and unfortunately we never got land here. We were given that land up there (points to picture) which was volcanic clay and grew nothing. But it's developed over the years. In about the 1940s scientists discovered that if you put cobalt into volcanic land it grew faster, so it's evolved.

I've heard that it's very valuable and productive now, right?

It is. So that's it there (points to picture). Those are all of the farms, it's a major dairying region.

What is the history of your family in this region?

My great grandfather, he died in 1893. And our history in the area is since the 1860s we've had a block of land right out on the southern coast, right out at the southern tip of the north island. That's been in our family since then. So it's marginal country, it's very hilly, but it's leased to the neighboring farmer, and it's been leased to a number of neighboring farmers, the adjoining property owner. So the neighboring farm has just been sold to a Chinese farming consortium which is interesting. We haven't directly as a family farmed it, but we've always leased. So we've been around there for a long time. When my grandfather was killed out there in 1906 moving stock and my dad was actually born in 1898 so we've been here a wee while.

What do you feel about the water quality currently in Lake Wairarapa?

Not good, terrible. And for this day and age disgusting. And that's mainly probably affluent, come from mainly the dairying that finds its way into the lake. And in my memories of the lake it was always grey. We've got photos here that were taken and it looks quite blue. But generally if you go and have a look at it, it looks quite grey. And I don't think that thing have progressed or improved, it's actually gotten quite worse.

Do you think that the water quality is one of the main reasons why the lake isn't used for recreation anymore?

My personal view would be yes. I wouldn't go and pop myself in there. So it's not particularly deep is it, the lake, it's around 6 feet at the deepest point. So in Featherston we are all aware of the lake being polluted.

Do you visit the lake?

I used to as a child. A lot of children from the town used to bike out there just to go for a ride, would go to the lake. When my parents moved to the other end of town, usually when you

lived at the top end of the lake you could see it. People are aware that it's there, but I don't think that they flock down there regularly. There isn't really anything there, unless they're interested in wetlands and things like that. So recreation wise I don't know but there is a camping ground down there. Well there was in my day because I used to camp there. Have you been down the western side of the lake, have you been down there?

I think so.

Yeah it's a lovely drive, I often take people down there and across the diversion and then come up the other side. And I don't think I ever thought as a child that it is the second biggest freshwater lake in New Zealand. Yeah I don't think that I knew that. And then the other thing of course is duck shooting. A lot of duck shooting.

What does the Wairarapa Moana mean to you?

Well it means progress to me. There was history where there were some people against the sale, some fought against it being seated to the crown. And actually we have the photo from the day that it was seated to the crown and our people don't look at all happy. In that photo you will notice that some of them have their heads down, nobody is smiling as the check is being handed over. So I guess I'd say that my great grandfather signed the deed of sale in 1882. So when I think about him I think well he was probably a person that was looking towards progress. So for Wairarapa Moana, I think that even though we come from there, we know it was a sad day that the lake was seated to the crown, we look at what we have today and I think that we have made the most of it. Because that land up there remained unused for nearly 50 years, there were no roads into it, they had to go up the river and the people up there, and the people up there gave them horses and then they rode the rest of the way. So it took days to get there, there were no roads, and so it mostly remained unused until in 1948 they started clearing the land, so it evolved from there and I guess someone else will talk about that. But I think that it disenfranchised a whole group of people, some of us are here and some of us are up there, it's like we've been cut off. But the incorporation today is pretty successful. So for me that's progress.

Who else do you recommend that we talk to?

No I don't know of anybody, Ra would know. When you have something on your back doorstep you often don't think about it.

Any other opinions on the barrage gates that you wish for us to include?

No. I mean from my personal view, if it stopped the flooding, and I remember it, that was a good thing, but there will be other reasons why it wasn't. Going outside of your house, well you can't go outside of your house because it is surrounded in water.

What's your opinion of some of the farming in the region around Wairarapa?

Well I realize that's their core business and that's their livelihood. I don't think that they should be letting their affluent leach its way into the lake that should be stopped, quickly, because I don't think that it is improving. I think that it's getting worse, and that's not good for anybody. And all of our rivers are polluted. Ra is working really hard to improve that. You know we were brought up swimming in rivers, and all of those rivers run into the lake. And we used to walk out to the bridge, it was probably about a mile and half from our house and we would swim, and I wouldn't go near it today. The Ruamahanga I never swum, but I had four older brothers, all thrown in the river and taught to swim. When I was older the boy had already been drowned by then, and so I never knew him but their farm was next to the river, and so that's where they all swam, and I never see people swimming in the two rivers today. Or the creek, we used to go eeling in the little creek that was up the road, we used to swim in it, but I wouldn't go near it and I don't see people swimming in anywhere there today. So that tells the story.

Thank you very much for your time.

Interviewee: Ngāti Kahungunu 12
Interviewer: Elizabeth Walfield
Notetaker: Elizabeth van Zyl
Observers: Elizabeth Walfield and Elizabeth van Zyl
Location: Ngāti Kahungunu Ki Wairarapa Office
Date: February 2, 2016
Transcriber: Breanne Happell

What is your current occupation?

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Are you a Lowe Wairarapa Valley Development Scheme ratepayer?

As far as that is concerned, perhaps I should go back as... I grew up, and my family grew up in the south Wairarapa. Around the area where... After I grew up and married I went away, left the area for 50 odd years, before I came back here. In the meantime, I'd heard something about a diversion on the river, which didn't mean a great deal to me. Rivers get diverted here and there. Wasn't till I came back I saw the extent of the diversion and what it has done and was quite astonished and very disappointed in things. And I have now been put in a position where I am able to make some, or initiate some changes in relation to what is happening with the river system down there and the lake. So as far as the flood protection scheme I don't have a great deal of... I have various teams. I don't get as involved as much, as intimately as I guess I could in some of these sorts of things, so [I will] not be able to offer too much in depth in some of that, but some I can.

Which iwi and hapū do you identify yourself with?

I identify with Ngāti Kahungunu, which is the main one. I also as a result of that also identify with the Rangitāne which, in this area it would seem that every Kahungunu person could identify with Rangitāne and every Rangitāne person could identify as Kahungunu and it's a case of people affiliating more to one or the other and I have always known myself as being Kahungunu. The only time I refer to myself as Rangitāne is when I'm speaking and representing the Māori people of the whole of the Wairarapa.

When did you last visit Lake Wairarapa?

About three months ago I think.

Do you partake in any recreational activities in the Wairarapa Moana?

My recreation now is very sedentary. But in earlier years, yes I did. Did all the usual things when I grew up there. I was an only child of a farming family, and in addition to being Kahungunu I'm half German. I was brought up as a, with my mother's German family. So... shooting and all of the usual things and fishing and boating and going out to sea and all of those things.

What is the history of your hapū in the Wairarapa Moana?

Hapū is a funny thing because you'd say they're like an extended family and a lot of people identify with a number of hapū, and most of them are sort of interconnected. The hapū that I identify with is a main, or major Hapū Ngāti Moe, which is based on Papawai Marae just on the outskirts of Greytown. And my father came from there. If we were to look back we could probably identify quite a number of other hapū but I've never really gone into that I've just said my hapū is Ngāti Moe and that covers all the things I need to. My great-grandfather was... described as the last paramount chief and it was expected of me that I would follow in those steps but I was asked to sort of... and I was 21. At that time I was going to set the world on fire... the matches must have been damp I think.

What does the Wairarapa Moana mean to you?

It means a focus point or a very comforting feature that we belong to, to the lake, to Wairarapa Moana. And Wairarapa Moana, Moana of course is the Māori word for sea... in this case. But it's thought of, in European terms you have each one as a lake and call it Lake Wairarapa. And then the lower one Onoke, but Wairarapa Moana to Māori is the birth of... wetlands around it. So the Māori point of view is that we don't own anything, nature actually owns us, we are just custodians, guardians of that and it's our job to protect that. So it is our, I don't know how to put it, but the embodiment of our sort of parental, natural feature that we belong to.

How have the flood protection methods effected the Lower Wairarapa Valley?

I have to see that it's done wonders for that. The flooding occurred on an annual basis. And have you been told of the history of the, how it was, there was not natural outlet and the lake flooded at times and all the eels would go down and get out and the force of water eventually. And eventually the settlers, more and more European settlers, eventually... were given the right to open the lake when it got too high. Despite that it used to flood regularly and I think there were too big floods, I think in my time that I recall, I think the last of the major floods was in 1947, I'm sure there was a pretty big one during the following year. But there were lesser ones almost on an annual basis. Then I left in the early 1950s. For instance, at that marae where you were staying, across the road there's fields and paddocks and that, that was all swamp, right up to the fence. You couldn't walk... and nothing grew there. All that area was swamp. Once the, in the 1960s, the Ruamahanga diversion scheme took place and I found out. I knew nothing about it at the time. And with that went the control gates so they can control the amount of water, and they carefully maintain the opening of the lake. So they were able to reclaim a lot more, dry out a lot of that wetland, and as, I can't tell you how many but there are many thousands of acres of previously what was called wasteland or wetland. Swamps, bogs, marshes. Brought in the production and it's good high producing land. It is only in recent years that the environment and so forth, were able to show that the wetlands were the lungs of the area and all about what it does and then there was a move afoot to gradually restore some of that. We'll never get back to how it was. But it did bring in a tremendous amount of additional farming land. It was able to be productive and as far as economic progress is concerned, it was a great thing. We can talk about what it has done. It has seriously deteriorated the condition of the water in

the lake and that's another thing. I have been able, I was invited onto an organization, which was initiated by the Greater Wellington Regional Council, which is the Wairarapa Moana, it's had a number of names, it's a restoration group really. And I'm on the governing body... so there's the regional council, there's the Department of Conservation, and the mayor of South Wairarapa District, the two iwi, and a representative of all those marae down there, there's Papawai and Kohunui. And we're looking at a long term basis of being able to institute programs that would restore the quality of the water to make it available for greater use by a greater number of people, and then restore some of the wetlands, and then try to protect what the native aquatic life is in there. It's a large slow process. The one thing that I personally take a great deal of pride in was that... the reason for the, well one of the reasons for the deterioration of the water quality is that there is not, there was no flushing of the water in the lake. In fact in pre-European time there was a buildup and it would flood on an annual basis and it would all woosh out, and everything wooshed out, all the sediment, all the mud, all the eels and everything like that. And it brought sort of the water back into its pristine state, and then with the cycle... Without that flushing and the lake is very, very shallow... sediment is what's usually down there so. But I did feel that if only you, we'll never get the river back into the lake the way it was before, appreciate that, but what would happen if we could get some of it back in? Because it's not very... and the only channel is... silted up. But after some, I talked to a number of farmers and a number of people, and of course the DOC, that's the Department of Conservation, and the Greater Wellington, would you agree for a proposal that there are steps to be taken to, excuse me of calling it hydrological replenishment. In other words being able to have the case where some flow could be sent down the old channel. And they been accepting that. I'm doing some modeling now, and this one is long term plans they got to look at heights and... I think... if it can be passed it would take at least 20 years before you could see any appreciable gain. I hope there would be some. But even without that at least there's dirty stagnant water where the old cutoff is, where it entered the lake and the cut it off here. And even some flow through there would make it a bit nicer.

How are you and your iwi affected both culturally and economically by the flood protection methods?

Unfortunately, all this land that was brought into production virtually none of that is in the hands of the Māori people, the local people. That's in farmers' hands. So in that respect it doesn't have any effect, any great effect on us. The, it would not have created any jobs because farming has been more and more mechanized anyhow. So as far as... there's been no appreciable effect, in my way of thinking. What it has done though and I guess a number of other reasons too, the, it is the fishing and the eels... whitebait and... must be suffering, because with the shrinkage of the wetlands, a lot of the wetlands were a source of where the animals are and aquatic plants as well were growing and feeding. So there are not the same numbers of fish... so that will have an effect. There is very little eeling taking place by Māori people. In my younger days there would be, a group would go out and fill up a whole heap of sacks with eels and so forth and that's no happening now. In fact there's a case of protecting the longfin eel. I can tell you that I'm probably one of the last of the people that... took part in some of the eeling methods that were taking place, not in pre-European time but in a similar

sort of way before any of this had taken place, before the flood protection... Where the lake people would come up, we'd go down to the lower lake, Lake Onoke, just where the sand spit is, it was a bit different shape, now the exit was around the corner from the... under the cliffs. Now they drive four wheel drive out there. You couldn't even get round there the water came right up next to the cliffs... We would go there probably in the night time and row across and set up on the spit. And I can recall that on one occasion we'd have sacks, someone had a battery with a light on it under a pole. We dig big trenches into the sand from the lake, and put them towards the sea, you'd dig a trench and let it fill up with water. The eels are trying to get out to the sea, they fill it up... And then we'd block off the entrance like that and throw out these eels, and... catch these eels before they went into the sand, and shut them in the sacks. I recall one night there was a heavy sea and as the tide came up the sea came over about every seventh or so, the wave would be a big one, and it would come right over the top, and then rush down so that it goes into the sand and it would hit the lake. Now there would be a seething, boiling mass in the lake when that sea water hit the lake, and all those eels that are milling around, and particularly with the big eels it was an amazing thing, even in the dark... when the noise was all... we understood that, as the wave sort of hit that and sunk into the sand, the eels would sort of mount up trying to follow the water back, and as the water went down... burrow into the sand, and we'd be there trying to grab the eels before they're there and drop them in and put them in the sack... for some distance and I have no idea how far it would be but from where we were, there had been 4 or 5 of us I think there were 5 of us... you could not walk without treading on eels. And they were running over the top of your feet. They were just slithering along at high tide when it was coming over. And we would just will the boat up with sacks of eel, just as much as we could get, as much as the boat could handle. And then we all packed up and went home. That's what it was like those days. So that, and before that it was pre-European times, all of the various hapū or family groups would have their particular place... and they would get all these eels. As a young fellow I used to know that at Kohunui Marae they were houses, two rows of houses, one row along, below the marae, and heading back this way, and another lot along that ridge. And you'd see all of these eels, they'd split them and dry them, some dry them, and hang them on the fence to dry...

So you touched on it earlier a little bit talking about the water quality, but if you were to rank it on a scale from 1 to 5, with 1 being poor water quality and 5 being excellent water quality, what would you give it?

I suppose 5 has to be like you see on TV these poor little people in Africa, so I suppose I'd have to say 4, or 4 and a half, yeah.

5 is excellent.

Oh the other way around then.

So 1 or 2?

2.

So you mentioned that you didn't know very much about the river cutoff to begin with but how much do you know about the barrage gates and river cutoff now?

Well I've seen photographs of it I've seen... when they did it in the 1960s. And I've read about it. I hadn't gone into it too deeply. All I know was that it was there, faced with that's how it's used and I guess we got to learn to live with it. It's like everything else though they saw that, the powers that be saw that as a solution to a big problem, and it fixed that problem. The only problem [is] nobody really thought that swamps were, it was wasteland who would want a swamp...? And nobody ever realized what actually they meant. So it was probably the only thing they could do. It's just a pity that something had to suffer and it was the lake. And there's insufficient water to me... really do any flushing effect.

Do you feel that your opinions are incorporated into the current flood protection plan?

My opinions, I guess we have some sort of influence. It's joint influence... Our iwi is very much in the forefront of the efforts to mitigate the bad parts of that flood protection plan and to increase its effectiveness. I'm also on a small governing body that's looking at something we call it our Wairarapa water use project. And the intent is to build a couple of dams and maybe some... storage mostly for irrigation. So all of those things will have some effect on the water use in the Wairarapa. And flood protection of course is one part of it. Can't do much of the technical details of that, to share on the intimate details of it, which is something that Ra could do... He himself is on the whaitua(sp.) committee, which is dealing with the whole catchment, the water and rivers and so forth. So I can't help you too much on that.

What is your understanding of the resource consent process?

I was on a council in the further north when the RMA came into being... a lot was said and there's always the detractors... I think in essence it was good overall... it's had a number of changes, it's changing all the time. Even now they're trying to speed the thing up because one of the poor factors of it is, if we go through all the stages of it can take so long and having to keep going back... time is money and it has added a great deal to have to go through all those hoops has added quite a lot to the cost of any project. And so it provides for some protection. One of the things that I learned when I was a councilor... was the fact that every district would have their, have their own way of doing things and their own interpretation of the RMA. And I felt that one of the biggest detriments to the RMA was not the thou shalt not do this or thou must do that, but it's the way that it was interpreted by various offices, who put their own mark on it, and I felt that it needed a greater standardization, and to some degree I think that we still... I haven't, in more recent times I haven't had the opportunity to study the ins and outs of what the more modern changes have done, and I've just read the paper, what's happening. I've got to the stage now where, whilst I've been tied up into something very, very closely and become very involved, my time now it getting a bit limited, and I'm trying to sort of get the overall picture, which means that, it's like when you look down, you see the layout but you can't see all the little windages and the people... I'm 87 years old now and so I'm trying to sort of get enough things done to ensure that the jobs that I've set out to do are able to get done before I either kick the bucket or go gaga or both.

Interviewee: Ngāti Kahungunu 15
Interviewer: René Jacques
Notetaker: Breanne Happell
Observers: Breanne Happell and René Jacques
Location: Wairarapa Moana Masterton Office
Date: February 2, 2016
Transcriber: René Jacques

So we'll start off with what is your current occupation?

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Do you partake in any recreational activities around the lake?

Around the lake? As youngsters we used to go there and camp, and you would have heard some of the stories that came out of the marae... this was a collective of Māori, and when I say families there's always about ten, lots of ten people in each family. So we would have, or upwards of that. So we would have our tents and go floundering. Eeling was our commodity, and as things happened within the lake the style of what's in the habitat now is just, doesn't fit that sort of same, but not in the lake itself but around the beaches where, yeah. And I think I know where the problem is and it's just interesting. But carry on and I can add my point to your questions.

So, what is the history of your family in the region? I know Ra has gone over it some but we'd like to hear your...

Yes, my great-grandfather was one of the original owners of the lake, and was there when the protest of not to sell the lake, not to exchange it with the Crown, and not to open up the smaller lake, Lake Onoke when, it's Lake Ferry, Lake Wairarapa runs into what is called Lake Onoke, which is a reserve, a public reserve. And that's right beside the sea. So... we've, that tie-up has been very strong over the years. Consequently we would go back, in my youth, in my childhood, there so my mother is a very strong advocate, and so it was her people on that side, whatahoro(sp.), on my mother's side, who was a scribe for nunu Māori in Tireau(sp.). We have a thing called a tokonga(sp.)... priestly knowledge, the affinities to our cultures, in European cultures now has a strong, and it was all based on cosmology, because they would use the waterways for trading. So we looked there in the early 1700s, and late 1600s, and these stories were passed down, and this, I'm the fifth generation from this man, who's well known throughout our area. He was a scribe, and the settlers that came in, especially those who were sent by Queen Victoria, took him from the family when he was about 14. And so educated him in things of the English world, and his mother was a very strong Māori, and when he was 18 she went across and asked for him to come back, so had the schools of writing: English as well as Māori. So he, we've got all these manuscripts that he's written and he, the taupuna(sp.) people, the priestly ones were very staunch in the culture of things Māori, so this young man then became part of all that and he had to take the best from both sides, and the preservation or knowledge was paramount in his background and for his mother. So he got both of them. He

saw a whole lot of things of settlers coming in and changing, changing the natural flow of the river... and now we just go through our claims, and I think he may have mentioned about that. Ok, the claims is based on the treaty of Waitangi, and so Wairarapa is just going through that now. All those manuscripts were vital to how we actually put our claim together. And it's in tirau(sp.), and he was more fluent and literal for systems that, which would be spiritual as well as environmental issues so he would... We've four generations that we've lost our rua(sp.), and I was one of those. My parents were very much so. And then my grandchildren now are just vibrant an. But because he was surrounded with it strongly. Ok? The issues on the lake, his mother was captured by tribe from the west coast, and was taken captive as a, I think she must have been about 16. And the chiefly children were the ones that they were after. If they annihilated everybody else... she was taken across to Kapiti, and John Milson Jury, who was whaler at the time, he was bargaining with the people on the island. And she... got onto one of his dinghies... and when he came back his guards didn't [quite] get back to their schooner, when the tribal group... knew of her escape, [they] chased her right round, up the Cook Straight, that's Wellington there, the straight there, and up to Lake Wairarapa. And because she knew of the sandbars, where they were, she got them over, and the other canoe with warriors actually flipped over, on the sandbars. So she got home... and in the meantime... he got back to his schooner, because he was the captain of it and he went back to USA, to the gold rush time, in California there... And he came back 4 years later and collected her, took her out and got her married. They were married in Gisborne. Brought her back down and by that time she had found the children and others who were still alive in caves and brought back, and regenerated that group again. And this all happened on the east side of the lake. That's why we're really quite passionate about, and she had the home... and of course hiding John Milson Jury and his crew, and seeing Tiraupaha(sp.) and his people flipped in the sandbars. That's the sort of... resilience... now my kids are so tied up in the politics, both nationwide and Ra with his environmental factors. But me? Yes, just proud of the fact that they are and proud of the fact that my heritage has been around that lake. Sad at the moment, and I think part of it is... how it was diverted, the Ruamahanga, and the lake itself, we're trying desperately hard now with the regional council to plant native plants and the reasons why, around the lake. Also with the barrages, the gates, because when the water goes out of that it actually stirs up the sediment. And with the high tide coming back in, at the sea, it just pushes it all back in again. And as a consequence you've just got this whole lake bed and the negotiation team, which Ra's part of, with the Crown, has given us back the lake bed. The lake bed? That's Ra's drive he's got to do quite a big project before March, and then, and that's a statement of intent of how we're going to be using the lake. So with you guys coming, and with the last team that he had here, also from Victoria, from another university I'm not too sure quite where. But you're the second group that we've had, even though your state is inland? I think the other one was more on the coast, coastal areas. I think San Jose, down that end? And so, putting all that together, and they came back with fabulous huge maps and their project and the scheme of things... because it's all going to add to ours as well as... sharing the knowledge, with you. So that's my background. Both my parents were very strong advocates to keeping us in tune with the fishing and food. So that was for produce rather than all the environmental factors that we've grown into as a family, as my immediate family, and with this organization. I'm a shareholder with the corporation here, and well it's been a transfer from the lake, because the crown took it over, to

another part of the country, we've got a huge market up there. So exporting and all that stuff is all going on. Dairy products, all Southeast Asia. And now there's both groups, the corporation here and the claims, need to think about the lakebed... the gates have their purpose. You can see that for the farming in that area. But yeah we have problems with dairy farms and their excess. I've skipped myself, haven't I? Jumped ahead...

What would you say that the Wairarapa Moana means to you?

It means that sort of heritage. It's a heritage thing. It's heritage in as much as I hold fast to it as a commodity of our existence really. And it's also the fact that it has a great significance spiritually. Mauri means ethos. This is that... ethos, as well as what it could be. It was a mass of exporting of eels... if we get that back in because it comes straight down from the Kumarigs(sp.), from Tanau(sp.)... So it could be again. And fishing. It's close to the sea, it's also close to the flounders coming through, flatfish... It has, I really don't know enough about taking it back to its original, but even knowing that it actually... Does it give you a bit of a picture? The treaty is the only means [through] which we can actually hold the Crown to our heritage...

How have the flood protection methods affected the Lower Wairarapa Valley?

Oh yes. I was rather interested to hear Ian Gunn's chat to you guys at the Marae. Some factors, generally, we knew about, like sediment. And the top end, we've got a number of rivers in our area, but we go to elsewhere and just coming out from the Ruamahanga to where it actually comes down the side of the lake, before it actually comes into the lake. And that's more down towards the center of it. You've got a map haven't you? We had all these speedboats and that type of recreational people who would just use that part for that. And over the period of time they were actually closed up and they go down to the South Island now. So that's finished. But what's rather interesting was after the meeting we had on Wednesday, I went and joined and I both and when we went there's a young man who is going to the world champs, and he's just come back from Tahiti(sp.), and he's going to want to do Wakahama(sp.) which is rowing along that stretch. So I think there will be a lot more, and Māori are very much canoe minded, so I think that it's going to be one of the factors, sports wise and for recreation. But it's sad, sad, sad. Out around that lake, particularly around the western side as well, because it's actually gone way back, and there's still quite swampy land. So in winter time it's just a mud mire, from the lake coming outwards so. The currents are very strong, in there. The top end from Featherston... closest to that little township that's... so there's areas there, there's quite nice camping spots, and there could be quite a nice, and I think would have more productivity if you really think that they've picked up some of the exotic habitat there. And so that's been good. And I think that the council, and when I say council I mean the Regional Council, rather than the district council which are local figures, Regional Council has been a good, that they've actually changed over the years, even from... and now I think in this last 30, 40 years I think it's just been a really sudden look at have we been right. Once there was huge willow trees and they just block up the waterways, it's just ridiculous... they've taken away all that now, and realizing why native planting can do, and how it can actually help purify, the water edges and there's some really funny things happening that's types of fallen, that they're putting around and that's

been really, some of the things we've taken for granted anyway, because there's not as much water that we have to deal with up in this area. So we've been able to put in plants and able to clean the water. And so that'll take a wee while but hopefully by the time my grandchildren are coming into play this is going to be cleared and there's going to be a better way of doing things. Does that answer that?... the whole area over a period of time, there's been some changes since the Crown have taken over caring for it away from the settlers. There's going to be a big difference there.

So what do you think of the water quality in Lake Wairarapa?

Oh not good. I grew up swimming in the lakes, and Ra in his early years would have been a diver, and swimming in the waterways and now it's just sewage runoffs, runoffs from farms, effluent from farms. Shocking, shocking really. Sad. I don't ever think that we'll be so managed by the dollar than we are the environment. I still think that we're using clean New Zealand sometimes we're pretty lazy... in that respect so. Education wise for children there's been a big change and there's been some wonderful things that happen with the schools particularly the south Wairarapa and even up here because it's the schools that are actually going in as part of the curriculum for planting and the environment practice. So that's been awesome. And so the quality of water... has to really do with those who manage it. Mainly the councils and more Māori get up and say so rather than, because in a way we've grown really quite complacent. There's a new breed coming through... protestor... I think there's been a combination. And now we have a standing committee which is, it really doesn't have any influence, but if they, I used to think Ra was, and Henare, and Charmaine, are great people to continue talking around things to actually get them to come across. Those who care for use like getting rid of all those silly willow trees. Those sorts of things out of the way and there's still quite a bit other ones that run into the lake. But no, it's a shame. We have a lot of springs around Wairarapa, and that's more pure. We've got a marae which is 10 km out. Most of our maraes have a bore and so the water comes up and so there's parts that are really fabulous but actual creeks and rivers, and that's where it's not very healthy but the springs and we really have to be on a legislation group which is the resource consent. And that's our protective weapon to ensure that if there's a farmer there and you'll see heaps of farms here that uses the bore system to bring out and flow water out over their paddocks. Cows can't eat but sheep can eat. And so they demand so that's more needing green. Even though the cost of milk now is not a very good economic drive.

Do you feel that the opinions of Māori in the region are incorporated into the current flood protection plan?

Yes. Yes, yes, yes. It's really quite nice I think having the key group that are in this region and there's several people from different iwi, and that's a tribal affiliations, and their on it and they're really great women and guys and Ra and another person that's for here. And they then... the monitoring systems that they have [been] able to put into constitutional rights and then looking out how the implementation from those rights becomes a factor, and also the monitoring factor so there's a quality assurance at the other end, and that's a testing that's to see how they can monitor that quality assurance. And that is databased so in effect it's going to

be something that in case it's want to go under water testing was at this level saying where is it now and as a consequence is it getting better, is it getting worse, and I think that part with the council's is going to be really vital to the input and so that up a full system that, sensitivity to cultural awareness. And it's settled down to very minor things, like native fish as against exotics. And why. And bringing carp into the country hasn't been very good at all. And when we get our Canadian geese coming in and the guys just think it's just a shooting... and it's got to be much better, they've just had a huge shoot around the lake. The geese and the swans. We don't have as many here now as there used to be. And there's got to be a better way of doing it not just having... out there that they can just squat in and thank goodness we only have a month of that. Yes. But that's the reasons why. We want our birds and the drift into the country for, they come from huge places and the flights. We really do this to our, to our birds, as recently as before why, and even if they are flying into the lake there has to be, our farm which is six km from... Carterton. We have the Canadian geese actually as protectors. And they honk and they carry on out there but it's really quite nice. People were saying no, no, no, no you can't come up... this is my own personal control with my... land plots around that sector where the geese come. And it's a breeding ground and three months of the year then they're gone again... And as it is everyone has gone quite a bit over, so there's, the marshlands aren't as great as they once were... our waterways but it's shocking really this time of year... Masterton district councils' worse than the lot... so yeah no, it isn't very great at all.

What changes would you like to see to the flood protection in the area, specifically the barrage gates and the cutoff and diversion?

The diversion the control of the diversion, particularly up at the top end and bringing the lake down, you can see how the flow of water actually comes down in the buildup of gravel it's actually pushed back up and when there's a heavy, heavy bad [winter] it actually overflows and it cuts though the diversion and to the point where, it needs somewhere to go, and if you're going to block up these things the floods that could possibly come. We're grateful that we don't have any snow. You know now that... going on in the world, who knows we might be in for a really good, and we're really on the earthquake, there's a vein that goes on through the Wairarapa too so. That could topsy turvy us if something were to happen. And the flood gates, I'd like to think that they may go, there may be a, what they got out of it, and the proof that the Regional Council still stands by those flood gates. And when it goes as I said before when you get the water though what happens is... it builds up and the high tide comes back in, and it comes again, and so the base of the lake is really quite, so high is sediments so, it's a lovely, you can see the difference in the chilling of the water... we're quite proud of Wairarapa and the changes that are happening at the moment. There's also other things that are going on amongst the council...

Are you at all involved with the consent process for the barrage gates?

No I'm not. I get asked... and I belong to a Māori women's... organization, and we've been going since '52, so we do the survey for them amongst our, and we've got some youth groups there now so they do that survey for when that's going to be a big one. But the Chinese group, the

sort of farm out of the coast, but they want to breed cattle, and... So resource consents you really have to be very protective about and I'm thankful that we've got our political group, even with our current government, we can have a say in the process of how management of resource consent is. There's factors within it but for those aren't the farmers and they have a big influence because... they need my daughter and the Māori party, they need the Māori input into national. So we have another way of influencing that legislation that's passed for a resource consent, and there's amendments to it. So... we just have our heads down and particularly be aware that those that are driving this resource consent process, from local viewpoint, are aware of the factors and they come back... it's a huge task... but no I don't directly have... dealing with it...

Interviewee: Ngāti Kahungunu 14
Interviewer: Breanne Happell
Notetaker: René Jacques
Observers: Breanne Happell and René Jacques
Location: GWRC Masterton Office
Date: February 3, 2016
Transcriber: René Jacques

Alright. So, speed version. We're just trying to gather information on people's opinions on the barrage gates so that the Greater Wellington Regional Council can put forward a better resource consent for 2019. And we're students from America.

Ok.

So what is your, are you a ratepayer to the scheme? Do you live around the scheme? Or where do you live?

No I live in the Wairarapa here. But I've been a commercial eeler for 40 years, been involved in all of that down there, and I don't, I haven't commercially eeled for 15 years. 'Bout now habitat, trying to restore it. We just annihilated it, but, if you're talking about the barrage gates well, you know, my experience down there is with my people down there, a little bit of when that process went down in the 60s, and they cutoff in our main waterway into the lake which, killed it really, for me. Anyway I'll let you ask questions.

It's a very similar question of like, what do you, how do you think that the barrage gates and the cutoff have affected the environment? And what changes would you want to see to them in the future?

Well, for the, for the barrage gates when that, that went in, prior to that we used to go into the top lake, Wairarapa, and we'd catch our patiki(sp.), the flounder, the tuna, mullet. All sorts of fish come up through there cause of the opening of the river to the straight to the sea. So since that's happened, and I suppose in the 30 years I've been involved down there commercially, the decline of the eels is certainly, disappearing, you know? You can attribute that to the commercial take, because they're such an easy species to catch, but the eel and the flounder mainly, the patiki(sp.) and then the mullet don't get back up into the lake as much as they used to. We used to go out there and put a net out into the lake, and we would walk out with the net and drop it along, when we were kids, 5, or 6, or 7, drop a net out, maybe 25 meters long, and drag it straight back in anywhere on the lake, and catch 40 to 60 flounder. Now you're lucky to catch one. So, certainly the bypass of our sea and the diversion at the catchment border in those days put up there with the, now Wellington Regional Council, certainly not effective for our fish to come from the sea, migrate back into that lake and then to breed, and then to have free passage, and then out of that, back to the saltwater, down to the bottom lake. So it's had a major effect on our kai, in, in that top lake. And add to the, between the bottom lake and the [Wairarapa], because it's now restricted the flow of fish going up and down and back to the sea back up into the top lake. So, yeah definitely in my time, and I was, went to school down there,

I was brought up here at the top of the Wairarapa over on the east coast here. That was right up there in Featherston. Went to school there. What they call whanau to my auntie and uncle because there's too many in our family... Yeah, so, in my time, my short time down there for, basically went down when I was four, and come out of there when I was eight. That lake was the main source of kai for us, down there. Now, my other experience is just the history of the old people that I know down there, who was the chief down there in that lake, and he battled for years to stop any of that development of the lake and its free running water, and died not even achieving that, but, you know, a few have carried it on, tried to get it but, the farming sector took over there, and they wanted more land, and the best way to do that was to put in those barrage gates and control the water and shrink the lake, and that's what they've done. People down there, the lake used to go across to the marae at Porirua(sp.) down there, Hinewaka. You look there now and you look 4 or 5 miles across the, the swampland toward the lake used, to where it is now. Not the lake, the river. And that was all wetlands down there, and barrage gates on those gates but they changed the whole environment down there. Certainly commercial had a lot of impact in the lake because it was so easy to fish, so shallow. If we could only have our lake back we wouldn't have to go to a fish and chips shop, which I own one now. So yeah, to the, for me living at, up here, and brought up down there, certainly in my 65 years, I've certainly seen the changes. And then, just like where we have to go now, we can catch tuna now it's good because there's been a moratorium set on the lakes down there and you have to have a concession to go commercially and fish. But that's only part of the stopping of the fishing. There's still that bypass into the, into the top lake certainly effecting the movement of our eels and the migration. You know, it's quite unique to the lake down there for migration of tuna and I suppose you know how our eels migrate to sea and that. Down there that lake has got a big spit on it. You possibly know that. And, for years, and for months I mean, at the time of the migration, February, March, that lake could close up, and so the eels didn't go. So they had to return back up to the top of the lake, because eels, I know for a fact, in my time working with them, is if they don't get out to sea in that migration the tuna will come back, go back to where they come from. So you know, if they may get through on that migration through those barrage gates and then get down there and the lake's closed and they hang around there for a month, they miss that migration. And I believe, and I think that some of us might tell you, the eels migrate together. There a, there a, like a breeder I suppose, they go out into the Tonga trench but they all move together, because we've seen it where you'll walk across the eels down there when they, migrate to the sea. But, as I say what's unique about that is that the lake can close up at any time, and our migrations for the tuna doesn't run. That's not a problem, because they'll just return back to the natural environment and go the next year, if the lake's open well, they'll go. So, you know, I've experienced that and I've talked to Mike Tuali(sp.). Do you know Mike Tuali(sp.)? He's one of the eel scientists in [Massy], and he didn't experience that, and I know I actually personally said to myself and have had a lot to do with the migration of eels out of... Masterton's sewer ponds. And they all go out February, January, February, [if] the lake's closed in April, March, April, May, and right back to June the eels are all coming back up the river and coming back into these sewer ponds here. Actually because of the council's come to see me wondering why all these eels are turning up at the, at the thing from, down at the lake. So, you know, the eels that have gone through those barrage gates, if that doesn't happen, they don't get back through because the fish pass is down there obviously, and

I don't believe they, believe they work because half the time they're out of the, too high out of the water. So, yeah, that's my little tale on, on our water down there in the, in the lower reaches. We're trying to do our utmost to, to restore that and get it back to where it is because [tuna are a] major food source for our people in Wairarapa. You know, we're smoking a hundred eels today. We smoked a hundred eels a month ago. And that's mainly from willingness and that, but our big Waitangi Day is this weekend, so that's what we're smoking for, and I'm sorry but I'm covered in eel slime and I've just killed over a hundred and I've got to hang them up and dry them so... yeah. That's about all I can tell you about the lake down there.

So any changes that you would want to see the barrage gates I mean, just more fish passage or...

Yeah, a better fish pass there for the, the time that the, you know, I suppose people say oh when do they migrate and when do they do their thing coming in over they move all the time on the, on the availability of food, in the environment. If they don't, if they don't get back in there, well, you know, they're, they're in a, especially for the species of eel up there, the shortfin eel who's in the lake there, is that they really don't habitat, like a habitat for the running water in the rivers, where the longfin are, and the longfin eat them to. So you know for them to get back into that still, still water in the lakes up there where it's not running, that's, that's the big one with the tuna up there, and the best eel to eat, is the shortfin. So yes it's had a big effect on that whole ecosystem down there, you know, where most of the decline I've seen are from going down there and catching a ton of eels a day to coming down like with 10 nets in the old days, catch a ton of eels in a day, to going down there with a hundred nets and catching a hundred kilos of eels, which shows what's happened up there, as I say, a lot of it, ok, is the commercial activity and still today it's not policed by, MPI, Ministry of fisheries, eels are sort of down at the bottom of the, the scale so, they don't get the attention that, since the change in the regulation in commercial eeling throughout the whole country, and they opened up boundaries, like we used to be from Mount Bruce up here, Pukaha(sp.), right up this whole Wairarapa Valley was one area. When they changed the areas in 19, around 1990, 1987, it allowed people from Waikau(sp.) and people from Hawkes Bay, as far as Auckland, if they had little quota, they could access less quota down here, come back here and fish but they then fulfill their own quotas back up there, because, you know, its major depletion in the Tuaroa(sp.) country. So we got a double whammy down here with all that activity, and today it still happens, and so, we have locals down here ringing us up and saying hey there's commercial activity out on this lake. We ring MPI but MPI haven't got the resources, I think their whole structure has sort of changed. Their more about animal welfare and the dairy industry now I think, then policing the fisheries. Because I'm also a commercial abalone diver here. Have been for 40 odd years. And then the last ten, fifteen years, we hardly see a fisheries officer, active on the ground like there used to be. And certainly when you ring them it's I will be there next week, because they haven't got the resources. Yeah, so that's me.

Interviewee: Ngāti Kahungunu 15
Interviewer: Elizabeth van Zyl
Notetaker: Elizabeth Walfield
Observers: Elizabeth Walfield and Elizabeth van Zyl
Location: Ngāti Kahungunu ki Wairarapa
Date: February 2, 2016
Transcriber: Breanne Happell

You can stop the interview whenever you want and you don't have to answer any of the questions you don't want to answer. So what is your current occupation?

*** RESPONSE REMOVED FOR CONFIDENTIALITY ***

Ok. And are you a Lower Wairarapa Valley Development Scheme ratepayer?

Yes, I am.

If you had to choose an iwi and hapū that you identify with which ones would that be?

Hinewaka.

Ok, and then when did you last visit Lake Wairarapa?

Two weeks ago.

Do you partake in any recreational activities in the Wairarapa Moana?

Yes, I do.

What activities would these be?

Fishing.

Ok. Is there a particular area that's better than other areas for fishing?

In Lake Wairarapa there are. Yes there are. There are areas which are more, take flounder for example. There are a lot of areas that are more flounder feed more than they do in other areas of the lake.

Ok. Could you tell us a little bit about the history of your iwi in the Wairarapa Moana?

Ok. So, I link into Ngāti Hinewaka through my great-great-great-grandfather, who was born out that way. And so, because of that, that gives me association to the entire area. So my involvement, or my legacy out there goes back through four generations. Five generations in certain areas so yeah so, it's just part of me.

And then how would you say the flood protection methods have affected the Lower Wairarapa Valley?

The resources, being the fish in the river, as well as the lake further down, Onoke, the quality of fish is deteriorated over the years. So over the past 30 years, since I've been fishing, as a young kid, I've noticed the quality of the fish has deteriorated, the quantity has deteriorated as well. So it's also had an effect on the, on the immediate coastline outside of Lake Onoke, where the water goes into the mouth after the ocean, the quality of fish out there has deteriorated as well.

Ok, would you say that the flood protection methods have or how have the flood protection methods affected you culturally or economically?

Both. Certainly culturally because the mass, or the numbers of fish aren't there anymore. There used to be a big event every year where the eel would migrate, and a lot of locals would go into the mouth of Lake Onoke and gather them at night. You don't see that anymore because the quality, and quantity of eel aren't there anymore. So economically it's had a big effect too, because it's effected [a] major food source of the local hapū, or iwi out in that area, resulting in a lot of those families that lived out there and depended on that resource as a source of food, as well as income, to move back into urban areas.

So we've talked to a few people that have all talked about things such as sedimentation within Lake Wairarapa and we were wondering if you had to rank the water quality from a 1 to 5 scale, where 1 is very poor, and 5 is kind of pristine, excellent, where would you rank it?

Lake Wairarapa? 5.

Ok. And then, what do you know about the barrage gates and the Ruamahanga River Cutoff?

Only what's generally known from the point that they were established and the river, and the lake, diverted to create more pastoral land. And the barrage gates is a way of controlling water flow. So from a practical sense, that's as much as I know.

Ok. And how do you feel about the current water levels within Lake Wairarapa?

Can you be more specific on that one?

Well we've talked to some people who would want like, they like the lake level, usually like it allows for farming. Some people wanted lake levels higher to increase fish populations, so we just wanted to know if you had an opinion, if you don't have an opinion.

I've only ever known the lake level to be as it is, so from that point of view of got I don't have a very strong opinion on that. But, certainly if there are ways of increasing fish population, and if that means increasing the levels of the lake, then I'm certainly in favor of that.

With what you might know about the flood protection, is there anything specific that you know of that you might want to see changed?

With the entire process I think what needs to be done is to compliment the flood protection is clearing out all the sedimentation not only within the lake but also in the river ways, because all that bottom sedimentation has a big, chain effect right down the line until it reaches the ocean, and from the ocean it still has an ongoing effect as well along and that, by that it's the type of fish that we're catching fish that normally hang around in dirtier quality water. They're supposed to fish they would normally feed in clean water where they were happy on seaweed. So, a lot of on seaweed out front of Lake Ferry now, or Lake Onoke, have been wiped out, and so through the food chain, there's a totally different lot of fish that are coming in now. So, it needs to be clean. Apart from dredging the river and the lake as well as improving the quality of the runoff.

All right, do you also have an opinion about the exotic fish in the area? I know as a person who fishes near it do you fish the exotic fish, or would you rather see them no longer in the area?

No longer in the area, yeah. It's never a target. They're all as bycatch. And again I think the exotic fish must have an effect on the lake or native species as well. So yeah they're a bycatch for me and not something I target.

What is your understanding of the resource consent process?

Very little.

Ok. So I guess that's all of the questions we have. Thank you.

APPENDIX H: Farmers Affected by the Scheme Interview Transcripts

Interviewee: Farmer 1

Interviewer: Breanne Happell

Notetaker: René Jacques

Observers: Breanne Happell and René Jacques

Location: Greytown

Date: February 9, 2016

Transcriber: Breanne Happell

Are you a ratepayer for the scheme?

Yes, I certainly am. Well I have a family trust, I did own the farm but we sold it to a family trust, with just a slight difference, it's not me personally it is a family trust.

And where exactly is your farm located?

In Southern Wairarapa, a place up in Karatara(sp.), which is 1280 meters from the start of Karatara(sp.) Road which puts the farm at approximately the center of Lake Wairarapa on the eastern side.

Are you involved with the committee that helps out with managing the scheme?

No, that's the Lower Valley Scheme. My farm is in the Lower Valley Scheme but I am not a representative on the Lower Valley Scheme.

How do you feel that your opinions are incorporated into the Lower Valley Scheme?

They're not. Well I guess that they are, in the actual scheme, in the actual engineering of the scheme I guess they are but it's the other things that are going on that we are not being considered.

What is the history of your family in this region?

I purchased the farm from the government in 1978, and I have been here since then. Started with 200 acres, and then I bought another 200 acres all in the boundaries, and then I purchased another 300 acres which is on the boundaries and adjoins the actual fore shore of Lake Wairarapa. So I have the largest linear ownership of the lake shore on the eastern side, and that piece of land is in a QE2 trust. Are you familiar with a QE2 trust?

Not really.

Queen Elizabeth the Second lands are protected lands. They are still owned by landowners and they are put into the trusts, and they become a legal entity, whatever is in that contract, nothing can change, so in other words if there is a bush, a native bush, wetlands, that type of thing, can be put into the trust and they can be locked up in that situation which is much stronger, to change anything that is in that agreement requires huge money to be able to change it. So the contract that I have on that piece of land there is set in the title of the land and it is a legal entity and it has to be grazed and it is required to be kept clear, I am not allowed to have trees and rubbish and things like that grow on it, I must keep it cleared and keep it flat, you know, and that can't be changed, even the council can't change that, it's even stronger than anything that they can do, they would have to spend a fortune to change that.

What are some of the changes that you have seen around the lake over the years?

Change is huge. Cause the scheme, have you ever seen the maps of the scheme before, the plans of the scheme before?

I saw a map of the extent of flooding before and after the scheme.

Good so the land that I have is farm and used to flood, and we have had floods since then but nothing to the major extent of pre the scheme. We had to move out of our house before because there was water all around it. The major cause was the break in the stop bank along the spillway, which allowed the water to come right through on the northern side of the spillway and flow. The fall of the land, much to many people's misunderstanding is to the north, and the rivers all flow to the south, but that land actually flows to the north which is the most unusual thing, most people wouldn't know that.

Are there any changes that you wish to see for the scheme in the future about the barrage gates or cutoff?

No not really, the cutoff, I believe that it is silting up, we have no proof of that, but also below the barrage gates in what we call the barrows, there is a bit of work that needs to be done in that area, the flow in that area has been filled up quite a bit and I think that the engineers are quite aware of that. I find that the political differences are very hard to deal with and of course we don't know what the extent of the Māori involvement is going to be, but the lake was purchased off of the Māori, the land was purchased off of the Māori in whatever the year was, and with the treaty settlements that are coming along we know that the Māori are going to be involved in owning the lake but we don't know the extent to which that is going to affect but that has all been agreed by politicians, and the Māori have just told what is going to happen so we don't know what the outcome of that is going to be, whether that is going to be a good

thing or a bad thing, I suppose that we don't know. So we don't need to go to Waitangi and make a big noise about it because at the end of the day we don't know.

At the committee meeting there was a lot of talk about water quality, what is your opinion of water quality in Lake Wairarapa?

Political, very political. I have a very good article which you can take a copy of but the Federation of Farmers president was in the local newspaper last week and we have had the previous one that I left with you, which is a load of rubbish because there is no pollution in that particular strip of water, so it amazes me why he is able to get away with that and he gets publicity, there is another one that is a follow up in this week's paper, the same person has been involved with a waka, and they are going to have these four wakas and they got them down there and they are going to let people paddle out on the lake and come back to Māori days. The photo of course had no life jackets but we have to wear life jackets, and so this particular person as far as we can follow is becoming involved in a political party. The pollution of the water, yes it would have been polluted, because all of the towns, Masterton, Carterton, Greytown, Featherston, all of the towns sewage systems went to the river. Masterton spent many millions of dollars, and I cannot say if it is working properly, some people are saying that it is not working, but it's only an opinion, leave it to the experts, I believe that it has improved dramatically with the scheme and everything that Masterton has done, Carterton has just put in a new irrigation system that is land based, which is up on the highway there, which you can probably see when you are passing, but that has taken that water from the town away from the Ruamahanga River, the South Wairarapa District Council that bought the farm down Papawai Road, Greytown which is going to be used for the land based discharge or Greytown, they have also purchased a farm in Featherston for land based discharge of water in Featherston, and I am not quite sure what they are doing in Martinborough. So there has been a dramatic improvement in the water courses of the Ruamahanga. We know that in Lake Wairarapa the regional council figures that there has been no improvement and it has gotten no better and no worse in the time that they have been testing the water. So that's politics, if you make a noise loud enough then somebody will hear. So even storm-water discharge from towns in water ways is always a dangerous thing but the problem is that ordinary people, the politics of course, don't want to pay for it, so they can blame the farmers and that's fine. It's like any subject really, as long as it is somebody else's problem and not mine then it is great. So that is the typical scenario of course, farmers we have a big divide in New Zealand between farming and urban, because in the old days everybody was involved in farming in some way but now that has gotten less and less, and farms have gotten bigger and bigger, and urban people have gotten farther and farther away from agriculture and such and it is something that they don't need to know about, as long as it is somebody else's problem then it's going to be good.

We have definitely noticed a lot of people blaming farming for water quality.

Yes, and so when it is challenged, there is Dr. Joy at a University and he makes a lot of noise and he used to claim that the Manioto River was the dirtiest river in New Zealand, when he was challenged by a soil scientist he had to backtrack but he still made all of the political noise, and people's perception about everything is what is wrong, so no matter what it is, it is what people perceive it to be, and once they believe something you can't change them, it takes a tremendous amount to get a certain person's opinion changed because they read it and they believe what they read, once you have that it is pretty hard to shift. So that is what is happening with our rivers and our streams and the councils and everybody is doing great work but it's going to be major problems here because one of the farmers who resigned from that particular committee, we also have a piece of land on the number one line which is opposite the race course on the back road. All of that plains area is fed water from the Wahini and it is fed into channels all over the place and they come into town here. We have to fence those, they were put in by men, the man-made channels to put water for livestock on all of his land, so they have to go and fence them under the new regulations that are coming, well once they fill up with weeds you are going to have major problems. So the small amount of livestock problems of them drinking from these streams, well they look like little creeks, and we don't know how exactly we are going to give stock water on this land and how we are going to be able to keep them clean. So these are all things ahead of us, the big thing here is the Green Party comes on the radio this morning and says that we should all be organic farmers because of the amount of money that organic milk is making overseas, well the people perceive that, we have 60 organic dairy farmers on the north island of New Zealand, 60 dairy farms who provide organic milk. The reality of it is that those farmers can't be organic unless the rest of us aren't. That's the key. If we don't control the pests than they aren't going to be able to control the pests because if some of the farmers who have cropping don't control their insects with systems and science, without science we would all be in trouble, if they don't control the insects of course they will have a problem on their farms. So where they are doing this supposed organic, it's a bit of a joke, they are doing it on the back of everybody else, but of course nobody wants to read about that. So that's the reality of it, just how it is. I think that we talked about possums did we? Possum control, before the regional council got sucked into the possum control we couldn't produce the quality of our herd by culling, because we could never grow enough animals to replace the ones that would go away from TB. So the TB rate was so high that we would lose 20 or 30 animals per year, and one year, the final year, that they started to do something, we lost all of our replacement animals, something like 100 animals. Young animals that were being taken off of the farm and disposed of because they were tuberculosis tested. So then the regional council they started with TNA which is a bad word for most people that don't know anything about it, and we had some guys that were very

conscientious of their jobs, and they came around the farms and started working in the land, and they have slowly spread doing bigger circles until they now have helicopters flying and doing things in the ranges, which means that the possums have been put under control, very much put under control. The organic farmers, and I have a neighbor that is an organic farmers, and I am not knocking them because they are great people, but they had to do their own possum control since they wouldn't have TNA, so they are allowed to do their own possum control as long as the council consents it and monitors that they are doing the job properly. But they wouldn't have been able to do that if the rest of us, it's like a big circle, they are in the middle of this circle and everybody is doing these other things which is protecting them from the situation. That's what we are sort of talking about and now I was just told yesterday that the, we have a system called movement control, we are not allowed to send animals off of our farm without tests, they can go to slaughter direct but if we want to sell them to anybody else then we have to get them tested for tuberculosis to move them off of our farm. Well that's being lifted coming up, I haven't actually read about it but I have been told. So all of that is an important step in the scheme of things. To me that's pretty important because people can use the system to produce organic milk and they are free to do that and that's good. We can't all be organic farmers.

Have you noticed a lot more restrictions on farming since you have been here?

Yes, thank goodness that I can give it to my son and daughter in law. I wouldn't be straight and be able to go back to the day that I started. It's beyond me with restrictions.

Some of the other farmers have expressed concern for future generations of farmers.

Well it is going to be extremely difficult. We have been forced to have bigger and bigger farms. And I mean I started with nothing, I did not inherit a farm, I worked and I was bonded to a job for 5 years and so I did that and you have been trained into the job and once you finish your 5 years which is 10,000 hours of work, then you pass some exams and become qualified and then I did that and I went to another job, and I am well away from that but I decided that I wanted to have a go at something else, and it was a big company, Tip Top ice cream, and so I went to work for them and started just as a driver, as a delivery ice cream man, and I graduated through the job there and I became a senior sales rep and I worked for them for 9 years and then I had a cousin who was a builder in Wellington and he went on a holiday with his family to a friend who was farming and thought gee I like this, so he thought that he would have a go so he had a go and we were in Hamilton at that stage working for Tip Top, we used to go and visit them on weekends and then I thought, I reckon that this would be a pretty good life. So I had a go, and managed to get a job milking cows, and then I managed to get a job doing what we call 50/50 share milking, and so you own the cows and the farmer owns the land and I got that job which

was 80 cows and I did that for five years and then the government was silly enough to lend me the money to buy more cows. So the relativity of that is that to buy a house then is just as difficult as today because the wage just didn't match the cost of the house, and you could put a deposit on the house but you had to have a third deposit, so you had to have a third of the value of the house. So you had to keep saving and saving and my wife and I were both working and the deposit was still going up ahead of us, just like it is today, and we decided well we have this job milking cows and we have a house, that it part of the rent, we would have probably been 40 years to pay off the mortgage on the house but we had to pay the stock load in 5 years, so after 5 years of working hard 7 days a week we owned a herd of cows which was the equivalent of a house. Then the government of the day, of course all of these things depend on the government and what decisions they make, the government of the day had a situation where they would lend up to 85% of the going rate of a farm so you only had to have a 15% deposit. By the time that we owned the land we owned tractors and we built the herd from 80 to 120 cows that we actually owned and that was more than the deposit required for the going concern of the farm. So we built a farm.

Do you do dairy farming?

Yes I do dairy, so from 80 cows the farm now runs 450 cows. So to be able to buy that today would be very difficult. We had to get bigger, because if we didn't get bigger then we wouldn't be there. So when I started there were 50 acre farms, and then they became 100 acre farms, and then those 100 acre farms became 200 acre farms and so that is how farming has really grown in New Zealand. Some of the land down this way was sheep farming but it was converted to dairy. So both of my neighbors were sheep and cattle farms and they were converted to dairy not that terribly many years ago. Both of those farms were sheep farms but they weren't economic because they couldn't run enough animals. Farmers are price-takers not price-makers so the economics of running a farm with just 100 animals was just not enough, so that's the same with dairy, 80 cows today just wouldn't cut it. So now instead of it being a 1 million dollar farm it is a 5 million dollar farm so how are you going to start off with nothing these days and fortunately the share milking program is still there, I won't say it's impossible but it is pretty near. The farm is a bottomless pit. You get a living out of it and all the rest goes back into the farm. We have had to make the farm bigger and bigger all of the time. So we started with a cow shed that had 14 a side, a cow shed has 14 cows up each side, well then we went to 21 by virtue of we made it bigger, and then we bought more land and we made it bigger again and now it's 37.

Do you have a resource consent for your land?

Yes we have a water discharge consent and for affluent disposal from the building area. If I want to make it better than I have to go back and get a new resource consent. I will leave that to the next generation and their computers. And we have a water resource consent because we take water for irrigation so we have a resource consent for the amount of water that we are allowed to draw.

But overall for the scheme do you just feel that opinions need to be incorporated more?

Yes because it is all politics, and there is going to be some major political upheavals when they come up for the resource consent. Especially if the Māori are going to have the lake, what affect that is going to have we don't know. We were talking about the RAMSAR the last meeting, and we are not really against the RAMSAR but it's perception of others are the problem. We are trying to dig in a little bit on RAMSAR to try and make other things happen, so when one of our farmers went and spoke to an environmental lawyer and said if a farmer was taken to court for affluent discharge should it happen, would it make any difference in the court, this was the RAMSAR, and they said of course. Now legally that is not right, the law should stand as it was, but their perception will be that this is an international wetland and therefore the damage will be more severe so the farmers will be punished. So what we are on about is that a guy was punished, a pipe broke, he wasn't even on the farm, he was in Auckland, he had a guy looking after the farm, the pipe broke and he didn't fix it, and the affluent went to a drainage site down the lake which the council said was going to the lake, which it was never going to the lake anyways, but he was taken to the court, he was fined 30,000 dollars, he wasn't even on the farm but he's the criminal. So when he went to go Australia he was held up at the airport in Australia because when you go into a country you have to sign and fill in your form if you have been committed of a charge that has a fine that exceeds 15,000 dollars or if you have spent so many years in imprisonment, so he did, and they held him up until they researched him and found that yes it was a discharge and then they let him into Australia. So he is a criminal and that is the sort of thing that we are on about. I just got a ticket today, I was travelling north on the highway and I exceeded 100 kilometers per hours, and I was fined 30 dollars and the speed that I was doing was 106 kilometers per hour. So what is the perception of that? I am a criminal, fined 30 dollars, but I exceeded the speed by only 6 on the motorcar, you know one little touch of the accelerator, you have to hold at 100, a big powerful motorcar you know, but it don't matter, that's the law. Which is the most dangerous thing, to exceed the speed limit on the road or for a pipe to break on the farm, which you can do nothing about but he is still a criminal. Those are the perceptions that we are talking about and the law and the council guys don't want to know. We have had words with them, the prosecuting guy had been to the meetings that we had and told them about the law and everything and we have asked them about it but that's that. And that's our perception, we are doing the right thing but the farmer's perception is bloody worse than the police. And of course the biggest disposal, the

biggest effluent of course is coming from flush and forget, the town people all flush and forget. I mean when it rains the dirt of roads and motor-vehicles and things, that all goes down the river. That never used to happen, so if you took all of the tar up and all of the houses away you would have no dirty discharge, would you? So we know that in Wellington Harbor after a rain they close the swimming hole that is in the harbor, because of cigarette butts, the biggest discharge is from cigarettes, but everybody used to smoke in those days, we would be smoking now, we would have ashtrays here, so now they go outside and accumulate in alleyways and little areas and it all goes into one place, when the rain comes, swoosh down the drain and into the harbor. And they have to close the swimming hole because of the contamination in the harbor area. So there is no dirty dairy cows in Wellington City, but they don't want to pay, you can't tell city people that they have to pay for their discharge into the harbor. So it is all perceptions. As I have always said you need to know where you have been to know where you are going, so you need to know what has happened to know what it is doing today. So most people have no idea whatever that was like because time has gone on too long.

That's when they opened that gates to let some fish through, Ian will say some little fish and the Māori will say well you haven't done the research because you were supposed to do the research and now the council hasn't done the research and we don't know what they are talking about. So that's a sort of round and round circle. So that is our fear that it will cause a problem, and there are figures that can show you how much the water level will drop when they open the gates. Quite often the engineers have gotten the water level quite high in Lake Onoke but then they have run into trouble and have not been able to get the opening to Lake Onoke open, and they have to quickly open the gates to bring the water back or else it is going to flood Lake Ferry, and so that is quite a lot of water, and so if you don't have someone switched on on the right day at the right moment to open those gates and let the water back into Lake Onoke you could have a major problem. So here again we could be dealing with stupid law because oh we have to do this for the lake and the water levels, so the original agreement between supposedly the Federation of Farmers and the council in the region, for the resource consent to be granted in the first place for the barrage gates was for Lake Wairarapa to be held at roughly 2 or 10.2 which is above sea level so that is the theoretical level that they are supposed to hold the lake at and they try to get that the best that they can, but they have to keep the sand bar, so if it doesn't rain then it is a problem and sometimes in the spring we can have a lot of rain.

Interviewee: Farmer 2
Interviewer: Breanne Happell
Notetaker: René Jacques
Observers: Elizabeth Walfield and Elzani van Zyl
Location: Greytown
Date: January 31, 2016
Transcriber: Breanne Happell

Are you a ratepayer?

Yes.

Where is your farm located?

It's quite a bit off of the scheme but has a block of land closer to the scheme.

*** RESPONSE REMOVED FOR CONFIDENTIALITY ***

I have a son who is on the lake, where I originally brought up, top end of the lake. When they changed everything. So I was a member for the Tauherenikau, that's what we called our end of the lake, the top end of the lake. And then we have representatives all the way around. But it's only an advisory committee. With Wellington regional running it. So they listen to us and 9 times out of 10 they don't take it, they're on their own mission. I haven't had any farmers resign from my committee, not like poor old Ian. That's a different one for the Wairarapa Moana.

How does the advisory committee work with the GWRC?

Yes, we serve as recommendations. We have two main meetings and the engineer. He sets the agenda and all of the financials, and does the financials of the whole area. We the ratepayers pay half and the Wellington Regional pays the other half. So that's how the scheme works. And then Ian has a team under him and they're actually doing the work on the lakes and the rivers. So it's sort of broken up, were the biggest scheme, the Ruamahanga and Lake Wairarapa and there's several other schemes further north, goes right up to Mount Bruce, top end of Masterton there. And of course all of those little rivers have little advisory committees, and all of that water comes down to our end and we have the main performance because we have to get those gates working and get that water to the sea. And things are getting a bit tricky now with the local natives. They're wanting to take the lake back and they are all concerned with the fish and the eels. So there are a lot more environmental things going on. When I was brought up as a young fellow we were all farming and nobody thought about the environment. Well now it's completely changed where it's all about the environment. The farming is in the background. And there's quite a clash coming because like I said at that meeting the other day is that there's got to be a balance because they're expected to pay rates and make a living, get the money and run the farms. And yet all of these other people, what we call tree huggers.

Yeah so that's where things are getting a little bit sticky, like some older guys like myself, when you're suddenly plunged into the new world, but yeah were getting along with it, nothing concrete, it's all ideas. And then on top of that you got climate change, global warming and the sea coming up, we won't be able to open the gates. It will all be a nightmare.

Interesting to see all of the different opinions at the Wairarapa Moana Meeting:

Yeah it was, and you could see why all of those farmers, they bring up their issues and of course you felt the people on the top tables, their mad about the environment, they're not even listening, that's what they want.

Can you talk to us more about what is happening with RAMSAR?

Well it was quite interesting with Ian chairing the meeting and everyone and I said that I was against it. I think he felt like hitting me over the head with a lump of wood. I said that it's a heavily farmed area and they do a lot of shooting there too and how the devil can you have a RAMSAR environment with all of that. Like there's farmers that pump water out, they pump water in, we do all sorts of things to the lake level. And there's a lot of concerns from the engineers too that once that RAMSAR comes in that the Department of Conservation will have full control in the area. And they're (DOC) is into farming natives instead of willows and things like that for flood protection. Yeah it was negative, and we had a big meeting with the federation of farmers that's the representatives of all of the farmers and Ian come along and did his spiel but there wasn't a farmer that was keen on it. Cause they know bloody well that there will be more restrictions. But you heard them the other day talking about RAMSAR and then an email came out and one of the other big works said that we will have a new site by August! Now we've gone and tried to put our point of view but nobody is listening. So I probably wait a few more months and then get onto the local EAP and find out who the minister of conservation is to have him hear our view.

From Ian's point of view RAMSAR doesn't affect anything which is probably true but you know really that's not going to be the case. You can't have a wildlife heritage and not say it will affect anything.

What are some of your main concerns as chairman when working with the barrage gates and Ruamahanga river cutoff?

The main concerns for me are for the younger generation coming along, they're the ones who are inheriting the farms or buying them, they've got the big mortgages and rates. It's all very well for everyone bringing all of these environmental impacts onto them but how are they going to survive, they still have to survive. Like I said to Ian Gunn, we can save the environment all right, we milk 600 cows now, I'll bring it back to 300 but you pay me for the other 300. But oh no, I can't do that. I'm always saying that there has to be a bit of a balance. You have to help the environment but you can't go completely overboard.

What changes do you want to see in the management of the cutoff and barrage gates in the future?

Well I would like a bit of say. I mean that they have all of the say and we really have to count down because were getting 50 percent from the public's money so we can't, were only a small percentage of it. Just really more of a voice. With the way they've gone and cut us out we haven't got a voice really. They will listen but you know that they aren't going to act on what we say. They just bend the rules or change the personality and come in form a different angle back to what you were protesting about. And you can see that in that Moana one, those farmers have been on that for three or four years, they're put in submissions, they've done everything that they can and nobody is listening. I just hope that doesn't end up my committee, that's quite possible. So more of a voice and more of an awareness. There's got to be a balance between the environment and the income coming off the land. It's probably been all income and no environment, but we have to balance it somehow. That's becoming a real fight.

What are some of the other affects that the scheme has had on the region?

It's had a far bigger affect. I think originally when the scheme was first brought in in 1968, a lot of that land used to disappear under the water for a long time, say a month, six weeks. But with the gates it never floods now or a very minimum. The other thing is that it's had a huge effect with keeping the lake at the low level, it's made terrific drainage, its kept the land dry. So that's really been the bonus. I think the original farmers and engineers were just worried about those huge floods. Because once that lake blocked it's just like putting the plug in the bath. The water is still coming down from the whole Wairarapa and its just rising and rising. And at some time when you strike bad weather with a big southerly the sea would be thumping, thumping and there's no way that they could even open it (the spit). So there's more and more land disappearing and it's usually happens in the peak of the farming season in the spring time.

So that has an enormous effect on the economics of the whole area but of course the problem there is that's a generation ago. You're now getting into the third generation, well that was my father's farm and he got massive benefit. I took over from him, carried on, and now my son is getting it. So now were into the third generation and a lot of them have forgotten why that was done. I mean to them they've grown up like that; the lakes been controlled. I mean when I was a child the whole farm used to disappear. Our house was built on a bit of a ridge and I can still remember looking out the window and ducks and swans swimming by, no fences, nothing. So it would take months to recover.

Is any of your farmland on the floodways?

No were at the top end. But that's how bad it used to get. That never happens now. There were Dutch engineers were very clever people and they diverted the power of the Ruamahanga the sea can't block once they get it open. So therefore the lake had no more problem. But you get the likes of Ian and the real purists who would love to blow those gates and go back 50 or 60 years. That's what it is really all about. And of course further down the lake they've bought thousands of beautiful acres. Back when I was a young fellow it was all ducks and swans and complete wetlands. You would never get away with it today. It would never happen, it would be a bloody riot. Those days, like they've done through the depression for years and England was screaming for food so the country geared up for it. So they put up the catchment board and they had the government funding so nothing was any problem. It's a bit like you guys back home with the Mississippi, it's the same thing. You get your engineers and the massive amounts of banks that put in. It's really only been the last 15 or 20 years that people have started to kick up about what they've done and what you can repair. It's hard now because third generation the money has gone in, the farms are irrigated for all of the livestock. So it's going to be interesting in the next 20 odd years to see what will happen. If we get a green government then that will be the end of it. Apparently one of them did a big speech in parliament and I think the cows will be cut in half, all of the cows. We will be relying on tourism.

What is your opinion on the water quality in Lake Wairarapa?

It's different. That's a difficult subject because the Lake Wairarapa is the really the sink pit of the whole Wairarapa. And New Zealand has been built on phosphate, nitrogen and everything else that comes from millions of animals and plus all the town water. You know when you have a shower or a bath it all ends up in that lake. The whole valley. So obviously over 60/70 years of heavy farming and there's a lot of silt down there and it sinks into that. If you go down to the lake today with the wind it would be

absolutely brown. It does get blue but it's only in a real frost. It really settles and looks quite beautiful like Lake Taupo. But yeah to get it back it will mean hell to pay. Because once again New Zealand has been built on phosphate and sheep and the hills. And all of the runoff is going into there.

Do you feel that the farmers are blamed disproportionately for the pollution in the lake?

Well they do get a lot of the blame, but we are to blame. That's how we've built the country and what Ian is trying to do is trying to get the quality back up. There a lot of nitrogen but when you think about it, it couldn't be anything else. Of course these are all of the rules that they are putting on us, you have to knock back on the super phosphate. But they are suddenly starting to realize that a lot of this town water and storm water are the same thing. So the old farmers they get a little bit put out about how they get all of the blame. And of course the other thing that has happened in the last 15 years is that the dairy has really taken off, like what happened to the sheep industry is that it slowly dies. And I always said that it's a bit like whaling a hundred years ago, when they discovered oil they didn't need the whales and seals anymore so they've gone on to sheep. And then what's happened is the wool industry has slowly died, see nobody wears wool anymore. So New Zealand was so tied up with sheep, that was our main industry but slowly the farmers couldn't make any income with the rates slipping, well then the dairy started and now we've ended up with about 5 million cows, but all of the sheep. And that's what has put all of the pressure on the environment. And you just can't get around that.

Does dairy farming typically create more pollution?

Yes, and with technology, cow sheds, better fertilizer and better machinery a lot more land has gone into dairy. And a couple years ago it was a real urban district but now that's gone. So it's a bit tricky but you can't get out of dairy once you've settled into it, it's a very difficult thing. Mainly the south island was all sheep but then the farmers went down and they set up these dairy farms so that they can milk a lot of cows.

What might you plan to see for the new resource consent?

I think there will be a few changes, they've got a fish passage there and they have got an idea to lift the gates but that hasn't gone through. But yeah there will be a bit of give and take. Farmers want all sorts of things but I think that it's still going to work the way that it is. The main thing is as long as they keep that river going. It has gotten difficult for the engineers because a couple of years ago somebody come up with the bright idea to lift the gates and let the fish in and out, but of course he needs the gates closed to build up the height of the water to open up to the sea but they are not worried about that they want the fish. And that's become a clash straight away, as the graph was going up suddenly it would drop because they would open up the water and it would all go to the top lake. So yeah there will be a bit of give and take but hopefully not too much.

What does the Wairarapa Moana mean to you?

It means a pain in the ass. It's just another annoying thing you know. Well it's supposed to be there trying to get a balance, but that was their idea putting the Moana, that's the Māori side of it. Well it's all intermingled with the government with the freshwater and trying to save the environment. I don't know it's a terrible thing really, you could come away with a damn headache. After all of the papers and of course it's all individually driven, all of the things that they want to achieve. It's a tough one all right, that's why one of the old farmers have thrown in the towel all right. We have to work on consent and

we have to for everyone to get by. Obviously this family employees a lot of people, there's a lot of milk that comes from it and meat and fiber. And it's still got to work for everybody from my point of view. So don't get too excited. You know sometimes you can read these things and that's the end of it. Farming's going to stop and I don't think it will.

What kinds of farming other than meat and sheep are in the area?

There's a little bit of cropping. They do barley and some farmers do maize, people always call it corn. But that's for livestock. But it's not that successful in New Zealand. We have a funny weather pattern, too wet for grain, it's just never really kicking off. It's mainly the livestock and that's the annoying part of it as far as the environment goes. If you could get people making good money out of crops then it would be a lot easier on everything. But of course now we buy a lot of rain from Canada and Australia, they go the big acreage and better weather and we just can't compete. It's just a non-viable thing here.

How many people are in the committee that you are the chairman of?

I think there are about six in the whole valley.

Who else would be helpful for us to talk to?

That old bucket that resigned, Stuart, he's an expert. And then there's Bob Green, the big tall guy that resigned beside him. I would love to turn the land back into the way it was, but it's just not possible.

Interviewee: Farmer 3
Interviewer: Elizabeth Walfield
Notetaker: Elizabeth van Zyl
Observers: Elizabeth Walfield and Elizabeth van Zyl
Location: Martinborough
Date: February 11, 2016
Transcriber: René Jacques

Are you a Lower Wairarapa Development Scheme ratepayer?

Yeah.

Are you involved in the management of the Lower Wairarapa Valley Development Scheme?

Well, only on the Regional Council advisory board.

What does the Wairarapa Moana mean to you?

How do you mean? Explain.

However you take to mean the question, like what does the...If they say the Wairarapa Moana, what is the first thing that comes to mind?

Well as far as we're concerned it's our river. It's our river and our maintenance on our river and keeping our scheme up. This river has meant, it's a tremendous river. It means so much to us... we irrigate from it. But how nice it is it can be absolutely deadly too. And it's imperative that, that we're able to maintain it to the fullest of our, you know, we're allowed to, or we can, you know? You only got to get a bit of a washout, and it looks a little thing, but if it's not dealt with then we have that trouble now, because you got to go through so many people to get jobs done. It ends up to be perhaps 18 months, even 2 years sometimes before that can get maintained, and it ends up a mess of hole and it costs about four times as much as it would have cost you to repair. That's one of the worst things we're having on the river at the moment, is being able to deal with things as they occur, and not having to wait for the powers that be to make a decision. So, it's critical to us and the maintenance of it is critical to us, and keeping the scheme operating as it was engineered to do originally, that's critical. The lake level is critical to us, you know? Keeping that lake level down as low as possible.

Do you feel that the current management system of the barrage gates is fair to all involved stakeholders?

Well, not really. I think, probably, just the reason I just mentioned, slow and being able to maintain blowouts in the river, that's one of the most costly things that, I suppose. Cause the other thing now is of course the river levels are being, having to keep the river levels up so, it stops our irrigation. It's quite critical. So the river is quite critical to us, although they seem reasonable, they stop us irrigating now on certain levels which we feel are a little high, and could be managed far better.

And you kind of touched on it a little bit but just so we have it on the recording, how has the Lower Wairarapa Valley Development Scheme affected the Lower Wairarapa Valley?

Well it's been a tremendous scheme, as I mentioned there before we, prior to that going in, we mentioned that the flood area that I showed you, which was all going under water on a regular basis,

like down here you could have four floods in a year, you know? And so we've grown to live with that situation but on an extreme flood, back in the late 40s, you know, early 50s it was an extreme flood here. Cost thousands and thousands of dollars. And that was probably one of the pushes to get the scheme started. And of course they had to put the dredge up, and deepen, and put the cut in down there and set the barrage gates up as they are. And since that time it's made this river incredibly safe, which has allowed a lot more land to come in and a lot more land to be farmed better. Like there's a cow shed down the side of our road that could never have been built there years ago, and that's of course across our whole valley so. I'd hate to hazard a guess at the extra production of the water over the last 40 years but it's... working tremendous I suppose.

Person 2: Tell them about the time that... we had water right back up from coming in this house? One under there, that one under there. It was just full, and... when there was a flood before the scheme was put in... there used to be water up to the fencepost just down the road there... with the water there you could get a jet boat and seems to be working properly.

No it's incredible really, what it's accomplished and what it's done. Tremendous... financial improvement. And also stock safety of course. And people. Not that there's ever been any lives lost in this area because of flooding, but with stock of course...

So if you were to rank the water quality in Lake Wairarapa on a scale of 1 to 5, with 1 being poor water quality and 5 being excellent water quality, where would you rank it?

I wouldn't know. The lake over there's got a mud bottom, so it's always muddy. We got winds in the Wairarapa that keep it stirred so, I wouldn't know what the measurement taken would be, but of course it varies depending on the wind and the lake depth doesn't make a lot of difference but it's mainly the wind and of course the muddy bottom. So that's always pretty extreme.

What is your understanding of the resource consent process? Or do you have an understanding...?

Well I have a slight understanding, but some things are quite concerning and they seem to have gone overboard on so many things. Especially as far as drainage and things like that, things that we've spent a lot of money on over the years and to develop the land is like we're being squeezed to all revert back the way it was. Which is quite stupid you know, we just I know just, I know it hasn't gone through yet but I know just some things, draining and cleaning and the maintenance of our drains have got sort of right out of hand. The fish have more protection than the people on the land. And practical things, like half clean a drain and all this sort of thing you know, it got pretty childish. Yeah there's a lot of things that local farmers have got petitions up against, a lot of things that need to have a lot of adjustment to be usable. ...and there's a lot of things too... the biggest thing is river protection, as far as we're concerned, and being able to use the river for irrigation, which is the most important thing on this land... that wants replacing... so there's a lot of things as far as the community's concerned that's being affected. We're not getting much help for this area. It's mainly just river protection that's our concern. Keeping that lake down. People don't sort of think much about it but it affects us up here, you know? Those barrage gates and that lake are critical to us here. And the maintenance and the general... you can't stop a massive flood... extreme. When was it? 47 was it? That was one of the worst floods we had, but the next one was nearly as bad and it started to come over the banks. And had that lake been at a higher level, it would have crashed over those banks and, of course as I showed you before, that comes inside the banks...

Person 2: We used to always, before they changed it to where it was now, it was one way wasn't it? And then they changed it?

Oh yeah well that was a mistake in the engineering. Like people today don't even know there's a scheme here, because you can't see it. And they think oh they want to make this more beautiful, and clean the lake, well they talk of doing things that are totally impossible.

Person 2: ...the other day some poor guy wanted to clean his drain, and it had always gone to the lake, but he couldn't, cause it might upset the fish... everybody's farms have been draining...it's the trout that eat the native fish.

...people don't know what it was like...I suppose it was completed pretty much when I was 25 or so... living here is just possible now... people don't know they're alive here now because of the scheme. But if it's not looked after and there are people keeping on showing the importance of it, these other little minority groups and new schemes come through so many people that don't understand the situation get all these groups and next minute the gates are kept open longer and the levels are getting higher and we haven't got the money to maintain the river and you going to get a blowout and it ends up costing 50,000 to 100 million dollars. So it's very important to us.

Interviewee: Farmer 4

Interviewer: René Jacques

Observer: Breanne Happell

Location: Featherston

Date: February 9, 2016

Transcriber: Breanne Happell

Are you a Lower Wairarapa Valley Development Scheme ratepayer?

Yes I am, yup.

Are you involved with the management of the scheme?

Yes I am on the advisory committee.

What does Wairarapa Moana mean to you?

The first thing I think of when I think of Wairarapa Moana is what Ian Gunn is doing with the lake. That's what Wairarapa Moana means to me.

Do you feel that the current management of the scheme is fair to all involved stakeholders?

I feel that it is but there are some who feel that it isn't.

So you feel that your opinions in the advisory committee are taken into account?

Yes, yes I think that it is and with the advisory committee were only coming from one angle and that's flood protection so it might be a little bias I guess. And Wairarapa Moana some people may have more concern for the environment and water quality and things like that, and differing views. But the advisory committee is not really concerned about things like that, were concerned with flood protection so that point is not an issue. I guess I am keen to see it cleaned up as well in terms of flood protection scheme.

So is there anything about the management of the scheme or just the scheme in general that you would like to see changed in the future?

I think that there's more work and that more things need to be taken into consideration with the actual operation of the barrage gates. Like there are conflicting, you probably know all about that, the diagrams, of when they must be open to let the fishies go back and forth. I don't think that they've got that quite right in terms that the level of Lake Onoke needs to be a certain height to flush the mouth open, and open it, and when you open the gates to let the fish back and forth you lose the water that you need to push the opening open. They probably need more consultation to come up with a better plan.

What effects of the scheme have you seen over the years to the area?

Well they have made some changes to the heights of the sills to better manage the water that comes through at peak water flows. I suppose you know all about the spillways, there's 3 of them I think. And they did change the height of the sills at one point which was pushing water back into neighbor's properties, I think that they saw that it was too low, so they increased the height of them. And in our area they have widened the river in a few places which has taken the pressure off of this one right here,

the banks were a little bit low and they topped them off. So we've seen a few changes over the last few years, we didn't move here until 1986 and I think the first big issues that they had were the scheme flooding.

Is your farm at risk of flooding?

Yeah it is. And then there's the issue too that some people, before they put the scheme in the floods would flood our farmland, but not endanger lives really, cause now when you have high river banks close to houses and all, the houses are built closest to the river because that's the highest land, so now if there's a breach in the bank it creates a situation where you could potentially have serious damage. And there's still some older folks in the district who resent the banks going in in the first place. They should have died from old age by now. But there all still some people who think that the scheme should not have been put here. But we don't get any flooding anymore, just a small strip along the river.

So is your farm a part of the spillway?

We get cut off for up to a day or two, I think that the longest has been a day and a half maybe at the most. So it's an inconvenience and occasionally we have to dump milk as a result of some of that but nothing serious.

So you do dairy farming?

Yup.

What do you think of the water quality in the lake?

Well from what I've seen from some testing results I think that nitrates and particularly phosphates are too high. And water quality since it's a 6 foot deep lake in a very windy area it's not going to have great clarity anyways. That's some of the conflicts that people have, I mean at a meeting the other day a lady stood up and said that she wants to see Lake Wairarapa restored to its pristine, crystal clear nature that it was as she remembers it, but it's not even possible. Some people have expectations and no one can get up and say that's bullshit. So the only thing that I know of the quality of the lake is the testing results.

You had mentioned that you want to see the quality improve, is that mainly in the rivers?

I think that the river water quality has improved, Martinborough and Greytown and the other ones discharge into there and the other one is E.coli, because a farmland after flooding is an issue, but I guess that they're working on it, the farmers. Down in the flats they have been working on it in terms of fencing off streams and buffer zones and so forth but even those are one rule doesn't fit all so to speak. You fence off the waterways and in some areas that leads to problems because the cattle is what kept the waterway a waterway. I mean you exclude cattle and it becomes a swamp and you have to mechanically clean it and there's a whole set of issues around that now. On one of our farms we've done some testing on the water that leaves the farm, I can't remember what the actual figures were but it's as low as they can measure the nitrate. That was done by the Wairarapa Moana but the modelling shows that were leaching 39 kg per hectare per year. There's just so much work to be done and so many unknowns. And the area which we spend the most money on which is affluent ponds, most of the time we spend between 1,000 and 2,000 on them, and it's not going to really change anything, science hasn't caught up with what we are doing yet. The gains made in terms of nitrogen leaching is negligible.

Do you have any resource consents for operating on your farm?

Yeah, that's what I've been doing for the last couple of hours is renewing my resource consent. I think it's beyond my capabilities these days because the questions are just too hard. So we have irrigation and affluent consents on all of the farms. Our regional council is not too bad, they're not as harsh as some of the other ones but it's still just a matter of accepting new standards. You know what you used to do just isn't good enough anymore. Nobody likes the change, it's just like if they change the speed limit from 80 to 50 all you can do is growl about it, and that's why people are reluctant to spend more money and spend more time operating their affluent. And all the paperwork that goes with it you never used to have to do, and everyone just resents it. Those are the consents that we have, we don't have to have consents for anything else.

Have there been an increased number of restrictions on farming since you started?

Probably not so much restrictions, but how you are going to do things. When we started farming you had to have a permit, but whether or not you did it was another story, you could have just gone ahead and done it anyway. I guess the regulations have been here for a while but people used to ignore them but they have become much stricter. And it's the same with affluent, but we don't have restrictions in terms of stocking rate or how many cows per hectare are allowed or things like that, yet but they will probably come.

Interviewee: Farmer 5
Interviewer: René Jacques
Notetaker: Breanne Happell
Observers: Breanne Happell and René Jacques
Location: Featherston
Date: February 15, 2016
INTERVIEW NOTES

Are you a Lower Wairarapa Valley Development Scheme ratepayer?

Yes.

Are you involved in the management of the Lower Wairarapa Valley Development Scheme?

No.

What does the Wairarapa Moana mean to you?

It is a resource for us, as in for water. It can be a pain in the ass too. I have a personal connection to the land since we have always been here, it is a part of who we are.

What do you know about the barrage gates and Ruamahanga River Cutoff?

I know why it was set up to build farms. I know that they are part of the flood systems built to stop flooding. I know about the opening and closing of the spit.

Do you feel that the management of the scheme is fair to all involved stakeholders?

Well it could be used to keep the lake levels lower. Lake levels are often too high, especially in the winter, which causes erosion on the shores here. The water should be kept at a lower level. They need a more urgent approach to keeping the lake lower, especially during the wetter part of the year.

How has the Lower Wairarapa Valley Development Scheme affected the valley?

I haven't seen the changes personally, because it's always been there for me. Farm used to flood here but that was before my time. The scheme has helped farming and agriculture in the region a lot.

On a 1 to 5 scale how would you rank the water quality in Lake Wairarapa?

It's not perfect but it's not that bad. How do you rank the water quality with the sediment on the bottom? I was out on a jet ski for the first time yesterday and the lake was actually quite nice. But as soon as there is wind again then it will turn brown. So I would put the water quality at the middle of the road, so a 3.

The lake can be very dangerous, the water gets blown all to one side. From here you won't be able to see the hills on the other side because of the slope and the water spray.

What do you know about the resource consent process?

I don't know much.

Do you have any resource consents for your farm?

I have resource consents for my water tank and affluent tank.

What changes would you like to see to the current management of the barrage gates?

Just to keep the lake levels low and more focus on opening the mouth when it needs to be open.

What is your opinion on the fish passage in the barrage gates?

If it doesn't interfere with the flood protection then its fine, I don't think it needs to change since there is already a fish passage. I have seen it blocked by sticks and such though so it needs to be kept open for it to work.

What kind of farming do you do?

I do dairy, beef, and sheep farming. I am the fifth generation here.

Thank you.

Interviewee: Farmer 6
Interviewer: Elizabeth van Zyl
Observers: Elizabeth Walfield and Elizabeth van Zyl
Location: Featherston
Date: February 11, 2016
Transcriber: Breanne Happell

Are you a Lower Wairarapa Valley Development Scheme ratepayer?

Yes I am.

Are you involved with the management of the scheme in any way?

Yes, I am a ward that looks after the committee for the Lower Wairarapa Valley Development Scheme.

What does the Wairarapa Moana mean to you?

A combination of things, there is actually two Wairarapa Moanas that seem to be going. One is essentially for the wetlands of Lake Wairarapa and the surrounding area, and I know that there is some committee involved.

What do you know about the barrage gates and Ruamahanga River Cutoff?

They are essentially used to govern how much water comes in and out of Lake Wairarapa, depending on whether Lake Onoke is blocked or open, they can be open or shut to try and keep the lake at a constant level.

Do you feel that the current management of the flood protection incorporates all of the opinions of stakeholders equally?

Yes it does but just, only just. They are lacking in their infrastructure of the barrage gates, it is outdated. The gates don't have the technology to deal with it now, when they were put in a long time ago, some of them pretty much on site. That doesn't happen now and the technology is not there to do it. From my understanding if the electronics fail then the backup is to have to manually open it.

How has the flood protection scheme affected the Wairarapa Valley?

In my lifetime I haven't because the gates were put in before I was here. Well having the barrage gates means that Lake Wairarapa doesn't flood where it used to be. It is very productive farmland, and obviously people are more concerned about the environmental aspects of it now and potentially because of that I think that the lake is fuller than it used to be which actually has the reverse affect and causes more erosion and higher water levels.

What is your understanding of the resource consent process?

For the barrage gates it's very expensive, I think that it comes up for renewal in 2019. It's a very expensive exercise and personally without the barrage gates the Lower Valley District water scheme is stuffed, it won't work without the gates. Why we need such a lengthy and expensive consent process I don't know. It's in everybody's interest the way that I see it, beside a few eels and a few fish, which are now looked after anyways by opening the gates a certain hours I think every day. If we didn't have to

spend money on the consent process then that money would be allocated to an upgrade on the barrage gates.

What is the value and effect of the barrage gates on you personally?

If we didn't have the barrage gates then when the bottom lake shuts and then consequently floods, and if all of that was back flowing into Lake Wairarapa we would be flooded, every farm around in the entire circumference of the lake would be flooded, and the damage would be huge, and that all relies on those gates. If that lake filled up so much then that would also back wash the Featherston sewage scheme and Featherston storm water, the flood affects are huge. Without those gates there is quite a potential for a major disaster, and it seems that there is probably not enough money allocated or spent on the barrage gates for their significance in the whole scheme. I mean we pay 90 thousand per year for the insurance, so it's obviously very high insurance premiums and I just think that there should be more money set aside for the maintenance and upkeep.

Do you have any recommendations on how they could change the management?

I think that they need a more automated system so that it's quicker in its response. Some days the bottom lake can flood really quickly and if the bottom lake is shut that water will have nowhere to go and will come up and if there's an automated timer then at a certain level then it will stop that automatic flooding, it actually affects more of the Eastern side of the lake than our side.

Thank you.