

# Plants Restoring Wairarapa Moana

*Documenting the potential for plants to revitalize  
Wairarapa Moana*

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Sofia Quattrini, and Evan Seki



**WPI**

In Collaboration with:  
Ian Gunn  
Rawiri Smith



# Plants Restoring Wairarapa Moana

Documenting the potential for plants to revitalize Wairarapa Moana

An Interactive Qualifying Project  
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# Abstract

Wairarapa Moana, an ecologically and culturally significant wetland east of Wellington, Aotearoa New Zealand, is facing declining water quality and threats to environmental health. This project explores the past and future of plant-based restoration for both the land and its people. In 15 open-ended interviews, we uncovered shared hopes, concerns, and a collective vision for the future of the Moana. In our documentary film we amplified these voices, showcasing ongoing restoration efforts and aspirations for future initiatives. The film highlights the importance of indigenous wisdom, sustainable governance, and ecological balance between communities. Through respectful storytelling we documented a shared commitment to strengthening the future of plant-based restoration in Wairarapa Moana.

# Executive Summary

## Introduction and Background

Wairarapa Moana, located in the lower North Island of Aotearoa New Zealand, is a wetland of immense ecological, economic, and cultural value. Historically a thriving ecosystem supporting diverse wildlife and an integral part of Māori heritage, numerous factors have resulted in its extensive degradation. Pollution from farming practices and land-use changes continue to contribute to a declining water quality, holding back Wairarapa Moana from supporting crucial spiritual and cultural values for community members and reducing the once vibrant wetlands to a catchment for runoff. Recognized internationally with Ramsar status in 2020 for its diverse importance across ecological and societal bounds, the restoration of once vibrant Wairarapa Moana is an urgent priority and reflects broader environmental challenges across New Zealand.

In 2024, the New Zealand government formalized co-governance of Wairarapa Moana between the Crown and Ngāti Kahungunu, the local iwi (tribe), marking a shift toward collaborative management and creating opportunity for involved restoration efforts. This project investigates how plant-based restoration can contribute to ecological revitalization and cultural renewal while balancing the perspectives of those who rely on the Moana for well-being.

The goal of this project was to create a film that highlights efforts towards revitalization of Wairarapa Moana. To achieve this, we outlined three objectives: documenting the interconnectivity of the holistic Wairarapa region, exploring the balance of perspectives and cultural identity through the lens of plant

practices, and investigating the investments and the impact of restoration on the local community.

This project was made possible through the guidance and support of Ian Gunn, former Wairarapa Moana Wetlands Project Coordinator at Greater Wellington Regional Council, and Rawiri Smith, Environmental Advisor and Kaumātua (respected elder) of Ngāti Kahungunu.

Their extensive local knowledge, connections, and mentorship were invaluable throughout our preparation, interview, and filmmaking process. Their generosity in sharing stories, facilitating introductions, and providing rich historical context enabled us to engage meaningfully in conversations with those we interviewed about plant-based restoration in the Moana, paving the way for a nuanced and honest film. Our film brings together the diverse voices of the Moana and is intended for our collaborators to use as an educational resource and advocacy tool, shaping the future of Wairarapa Moana.

## Methodology

This project aimed to explore and document plant-based restoration efforts in Wairarapa Moana as well as the ecological significance and cultural importance of the region. This was done through a comprehensive methodology involving site assessments, interviews, media organization, and film editing. The team worked closely with local collaborators to ensure an accurate and culturally sensitive approach, ultimately creating a documentary that reflects the diverse perspectives and ongoing efforts within the region. To gain a deeper understanding of the region, the team





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conducted site assessments alongside local experts with extensive knowledge of Wairarapa Moana.

These focused on key experiences, such as exploring restorative native plantings along the Lake Wairarapa coastline, using bathyscopes to search for macrophytes in its waters (see Figure 0.1), learning about the significance of Māori taonga plants, and observing how small-scale constructed wetlands help purify farm runoff.



*Figure 0.1: Investigating Macrophytes in Lake Wairarapa*

Through these experiences, the team gained firsthand insight into the holistic role of plants in Wairarapa Moana. These explorations also provided opportunities to capture photographs and gather supplementary footage, adding essential context to the film's interview narratives.

A key part of our project centered on conducting 15 open-ended interviews, which constituted most of our efforts. These

interviews engaged with a diverse group of stakeholders involved in plant restoration, cultural practices, and livelihood in Wairarapa Moana, providing crucial insights that shaped the progression of our film. Local project partners Ra Smith and Ian Gunn selected the interviewees to ensure a broad representation of viewpoints. We prioritized creating a comfortable and culturally sensitive environment, employing decolonized interview techniques that emphasized active listening and empowered interviewees to guide our conversations. A flexible approach in interviews enabled us to adapt to responses naturally while remaining on topic. Working with our project partners, the team traveled extensively throughout the Moana to conduct our interviews at relevant locations, fostering a more comfortable atmosphere and enriching the context of the film (see Figure 0.2).



*Figure 0.2: Interview Tony Silbery in Wairarapa Moana.*



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Capturing these interactions posed significant technical challenges. However, in working collaboratively with the WPI Global Lab, we turned these challenges into opportunities—using two different camera setups and multiple microphones to capture a greater range of perspectives and emotions, especially when filming on-the-go interviews.

Following each day of media collection, the team organized audio, video, photos, and field notes to preserve key locations, important moments, and relevant annotations. This thorough organization was crucial in streamlining the editing process and providing a comprehensive record of our team's activities. We categorized footage using interview coding to sort media with our project's three main objectives. This approach separated raw footage from the final editing process, making it easier to identify clips that supported the central themes of the documentary and distributing the intensive and time consuming task of editing over our seven-week project term.

The editing process involved piecing together interview segments and additional footage to create a cohesive narrative. Once done with our interviews, we used a paper edit, outlining emergent ideas and themes, to help build the film's overall story. We then populated this edit with clips identified previously through interview coding to produce a rough, but sound, production of the story. This rough cut of the film was shared with partners and peers for feedback, which informed the final edit. This focused on refining the pacing, timing, and transitions to create an engaging and impactful documentary.

Overall, this methodology, which combined site assessments, interviews, media collection, and thoughtful editing, allowed the team to create a documentary that explores the ecological and cultural significance of Wairarapa. Through the support of our collaborators, we were able to engage with a diverse group of stakeholders, allowing us to present a balanced, multi-dimensional view of the region and the challenges it faces. The final film captures the complex interplay between culture, ecology, and restoration, offering a relevant and meaningful contribution to the ongoing dialogue about Wairarapa Moana's future.

## Key Findings

Through open, culturally sensitive interviews and careful, in-depth analysis with our interview coding we unveiled several key themes from our time in Wairarapa Moana. First, restoration is not a one-size-fits-all process, with its meaning varying from person to person. The broad range of different ways through which people find connection to the Moana plays a role in this diversity. Ecologists, who've spent decades restoring pasture to wetland habitats for birds, differ from farmers, who have connections to pasture going back through generations, differ from experts in traditional Māori healing, able to find key spiritual connections through the plants of the Moana. Despite these differing perspectives, the people of Wairarapa Moana recognize that restoration must be a multi-faceted effort, incorporating all viewpoints and values. Ella Buckley, an ecologist for the Greater Wellington Regional Council, shared with us how community plays a crucial role in bridging



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these perspectives, bringing people together through shared dedication and collective action.

“They bring with them their passion... which then ignites other people to come along on the journey... that’s why community is invaluable to restoration in all its forms.” - Ella Buckley

One necessity for the future of restoration, often mentioned as able to bring restoration efforts through globally uncertain future decades, was optimism. Our project exists at an inflection point of restorative traction in Wairarapa Moana, with previous restorative efforts, recent international recognition, and future opportunities through co-governance shaping a possibility for restoration as an upward trend for all. Tia Tuuta, an expert in Rongoā healing, shared her optimism that provides a future for restoration.

“What does 40 years look like to us? It is about dreaming. Anything is possible, even in 40 years. 100 or 200 years anything, everything is possible.” - Tia Tuuta

Optimism was how those we interviewed framed the necessity for future action to continue this momentum. However, it came with the understanding that today's experts will eventually pass the torch to future generations who will continue the work of restoration. Memory Tewhaiti, in an interview with her daughter, shared her perspective on the importance of future generations and their involvement in restoration.

“I think that we’ve got a positive future with the likes of you guys... and future generations coming. It’s never too late.” – Memory Tewhaiti

A defining element of the Moana was the recognition of nature, culture and spirit as a unified whole. In shadowing local experts in rongoā while foraging for taonga (treasures) plant species, they shared with us not only the benefits that native plants have for providing physical wellbeing but also in satisfying cultural and spiritual needs. They harped on their involvement in respecting plants and their use, connecting to it through cultural tradition. While explaining the healing power of kawakawa, Frances Reiri-Smith shared her cultural and spiritual connection she holds with the plants of the Moana.

“I do a little Karakia (prayer) before we go into [the forest] ... It’s a matter of respect and courtesy for the plants.” – Frances Reiri-Smith

This holistic wellbeing was felt by others we interviewed as well, in the first-hand ability for plants to provide for culture and spirit. One ecologist highlighted Wairarapa Moana's universal role in spirituality, extending beyond its deep significance as a living ancestor for Māori to a source of connection for all people. Ian Gunn shared the spiritual connection that he feels on the shores of its waters.

“To be on the beach at Lake Ferry surf casting into the sea, it doesn’t matter whether you catch anything, and just take in that environment... You know you’re in a place with special attributes” – Ian Gunn

These deeply personal narratives, shaped by collective decades of hands-on experience in Wairarapa Moana, have given us a rich



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understanding of the wetlands' past and future. One striking example is a memory of floating down the Ruamāhanga River—a river flowing into Lake Wairarapa—with whānau (family) as a child only to later realize the water had become too polluted to safely submerge one's head. This firsthand experience highlights the impact and direct impact of pollution and land use changes, while also reflecting the cultural significance and evolving knowledge of the land.

## Conclusions and Implications

Restoration of Wairarapa Moana is a complex and multi-faceted process that intertwines ecological science, Indigenous wisdom, and economic considerations. Our project highlights the importance of understanding and balancing different perspectives by fostering collaboration among those connected to the land.

By showcasing the role of plants in providing for a holistic restoration process, our film contributes to ongoing conversation about sustainable land management and cultural revitalization. This film serves as a tool providing a platform for the 15 powerful local voices and perspectives interwoven into one story of Wairarapa Moana. This project laid the groundwork to encourage future research, policy discussions, and community engagement in protecting this treasured wetland for generations to come.

Finally, our project reaffirmed the power of storytelling in environmental and Indigenous advocacy. Our film serves as a tool, helping to raise awareness and encourage thoughtful discussions about restoration. Rather than presenting a single solution, we highlight the diverse perspectives that shape the landscape, inviting audiences to reflect on their own role in the future of Wairarapa Moana.



*Figure 0.3: YouTube Thumbnail of our Film.*

Our documentary can be found at:  
<https://www.youtube.com/watch?v=p71G0YiaUX0>



# Acknowledgements

We would like to express our deepest gratitude to all who supported us throughout our project journey. First and foremost, we extend our sincere thanks to each of our interviewees for their time and for allowing us to share their stories. Their insights and experiences were invaluable to this project. We are deeply grateful to our collaborators, Ian Gunn and Rawiri Smith, for their unwavering support. Their generosity in guiding us through each stage of this journey—introducing us to incredible people, sharing their extensive knowledge, recounting powerful stories, and showing us the breathtaking landscapes of Wairarapa Moana—was instrumental not only in shaping our project but also in enriching our personal and academic growth. We also wish to acknowledge Frances Reiri-Smith for her kindness and hospitality during our time in Aotearoa. Her warmth and generosity made our experience even more meaningful. Additionally, we extend our gratitude to our professors, Ingrid Shockey and Robert Kinicki, for their invaluable guidance and the confidence they placed in us throughout the filmmaking process. Their mentorship was essential in helping us bring this project to life. We are also grateful to the Worcester Polytechnic Institute Global Lab for providing the equipment that made this film possible and for assisting us in becoming familiar with its use. Finally, we would like to thank our fellow student, Sarah Olson, whose work on the preceding project laid a strong foundation for our own. Her insights and guidance as we embarked on this journey were truly appreciated. This project would not have been possible without the collective contributions of these individuals, and we are incredibly thankful for their support.

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5.2 Approaching Filmmaking with Openness and Empathy	S. Quattrini	R. Flynn
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Appendix B: Interview Consent Forms	M. Inman, E. Seki	S. Quattrini
Appendix C: Interview Timeline	M. Inman	R. Flynn, C. Hunt, S. Quattrini, and E. Seki



# Meet the Team



Hello, my name is Ronan Flynn, and I am from Saco, Maine. I am studying mechanical engineering while pursuing a master's degree in material science at WPI. I have always been passionate about the outdoors and being immersed in an environment as incredible as New Zealand's has been awe-inspiring. This project presented the opportunity to collaborate with remarkable people and create memories that I will forever cherish.

Hi, my name is Christopher Hunt. I am an aspiring robotics engineer from Medford Massachusetts studying at WPI. I have a lot of wildly different passions and interests that I often struggle to pick between. Because of this, I love getting to work on interdisciplinary projects where I pursue multiple of these interests simultaneously. This project has been a great opportunity to engage with my passions for film, environmentalism, nature, and biology. I have also really enjoyed broadening my horizons by working on a project that is wildly different from what I have been studying, hearing perspectives wildly different from my own, and exploring an incredibly unique country, culture, and landscape.



Hi, my name is Max Inman. I'm from Concord, Massachusetts, and I study robotics and mechanical engineering. I've always been fascinated by interconnected systems—a curiosity that has led me down diverse paths, from automotive restoration to designing custom indoor gardens. Collaborating with Ra Smith and Ian Gunn and experiencing firsthand the rich diversity and interconnectedness of the Wairarapa Moana's ecosystems and communities has only deepened my passion for this project and film. I'm incredibly grateful for this experience and will carry its lessons with me for the rest of my life.

Hi! My name is Sofia Quattrini, and I am a mechanical and fire protection engineering student at WPI from East Providence, Rhode Island. Being part of this project has been an unforgettable experience, and I am incredibly grateful to our collaborators in Wairarapa for welcoming us and sharing their knowledge, stories, and passion for this land. Learning in such a rich and vibrant habitat —while bringing creativity and dedication to our film—has been both inspiring and humbling. I will carry this experience with me always, and I am honored to have been part of a project that amplifies the voices of those working to restore and protect this unique environment.



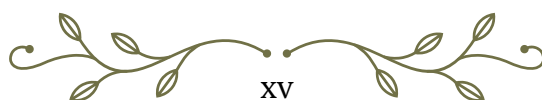
Hi, my name is Evan Seki. I am from Palo Alto California, and I am pursuing a dual major in both Robotics Engineering and Mechanical Engineering at WPI. I am passionate about outdoors, filmmaking, and engineering projects. I am incredibly thankful to be a member of this group. My time here in New Zealand, both working on this project and exploring the country, has left me with memories that I will carry with me throughout my life.





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# Glossary

Term	Explanation
Aotearoa	New Zealand
Iwi	Māori tribe
Karakia	Prayer
Kaumātua	Respected elder
Kōrero	An oral conversation
Matariki	Māori new year
Mauri	Life force
Oranga Tonutanga	Continued wellbeing
Pani	Balm or spread
Pepeha	Māori greeting speech, typically shortened and used by non-Māori
Pūrākau	Traditional Māori stories
Rongoā	Traditional Māori healing system
Rongoā rākau	A branch of <i>Rongoā</i> , specifically pertaining to herbal remedies
Taonga	Treasure
Tānē Mahuta	God of the forests
Te Ao Māori	The Māori worldview
Tuna	Freshwater eel
Whakapapa	Genealogy
Whānau	Family
Whenua	Land

# Chapter 1: The Path Towards Restoration

Wairarapa Moana is an extensive wetland ecosystem near the southernmost point of Aotearoa New Zealand's North Island. It is home to a rich diversity of plant and animal species with native vegetation playing a crucial role in maintaining biodiversity. Due to its ecological significance as a diverse wetland ecosystem supporting endangered bird species and cultural heritage, the Moana earned international recognition when awarded Ramsar Status in 2020. The region is home to rural communities that share the Moana for their agricultural, cultural, and recreational practices, many of whom rely on the region for their prosperity. Pastoral farming, introduced to the fertile lands in the 1840s, has grown to be a major force in the local economy, providing livelihoods throughout the region. The Moana provides a sense of place for regional Māori communities who settled in the Wairarapa centuries ago, calling it home. These communities rely on Wairarapa Moana for sustenance, spiritual connection, and its ecological wellbeing as an integral part of life. Coexistence and balance between these ecologies and economies has not been easy. Nutrient runoff from modern farming techniques, and land development schemes in the 1960s have caused the water of the Moana to decline in quality, reducing the power of the once vibrant and vitalizing ecosystem. This has brought a sense of loss and has strained the health of the spiritual connection to the land for Māori residents.



In 2024, and fittingly at Matariki (the Māori new year), the Crown facilitated transfer of authority over Wairarapa Moana to Ngāti Kahungunu, an iwi rooted to the Moana. After considerable petition from the iwi to the Crown through Treaty of Waitangi claims, they both agreed on co-governance of the Moana in the form of a Statutory Board. This has brought new opportunities and commitments to restoration efforts, including strategies harnessing native planting to heal degraded ecosystems and reaffirm cultural connections to the land. The Board sees a shared vision for addressing declining water quality and encourages a unified approach to healing the wetland after years of neglect from human activity and misplaced priorities. There were many perspectives and concerns about the *oranga tonutanga* (continued wellbeing) of Wairarapa that emerged in this process, and to do this effectively, it is important to bring forward a shared view of the health of the Moana.

Building collective energy around this multi-faceted process takes time and sensitivity. It requires careful listening and meaningful reflection. Residents of the Moana hold life experiences, cultural identity, and personal stories to share about their connection to the region. Their stories build a holistic picture of the region as it has existed, as it exists now, and how it might exist in the future—one with restored native plant life, supporting both the ecology of the Moana and the traditions tied to it. They reveal pressing concerns, whether about livelihoods, traditions that tie into family narratives, or experiences that form a sense of place within the Moana.

The goal of this project was to create a film that highlights efforts towards revitalization of Wairarapa Moana alongside collaborators Rawiri Smith, the environmental advisor and *kaumātua* (respected elder) of Ngāti Kahungunu, and Ian Gunn, the former Project Coordinator of Wairarapa Moana Wetlands Project. To support this goal, we identified three objectives:

1. Document the interconnectivity of the holistic Wairarapa region.
2. Explore the balance of perspectives and cultural identity through the lens of plant practices.
3. Investigate the investments and the impact of restoration on the local community.

This project, presented as both a film and a report, explores the complexity and interconnected nature of Wairarapa Moana. Through active listening and respectful documentation, we conveyed the diverse perspectives and lived experiences that make restoration in Wairarapa Moana a multi-faceted, intricate process. Our film weaves these viewpoints into key themes: collaborative restoration, optimism for the future, and the universal connection between nature, culture, and spirit. While our interviewees shared ideas on the role of plants in restoration, the film was meant to unify their insights into a cohesive vision of how the community can use plants to revitalize Wairarapa Moana for all.





## Chapter 2: Ecology, Culture, and Conservation

This chapter explores the ecological and cultural importance of Wairarapa Moana, focusing on its biodiversity and the historical changes that have shaped the area. It emphasizes how storytelling can highlight the connection between people and the land, particularly through the film documenting the potential of plant restoration. The chapter also examines the challenges and opportunities in balancing ecological restoration with cultural and economic needs.

### 2.1 The Moana as an Area of Ecological Significance

Our film needed to capture the beauty of Wairarapa Moana, which stretches across the southern part of the Wairarapa Plains, just outside the rural town of Featherston. It is situated on the Ruamāhanga River floodplain, an hour's drive from Wellington, the capital city of Aotearoa New Zealand (see Figure 2.1).



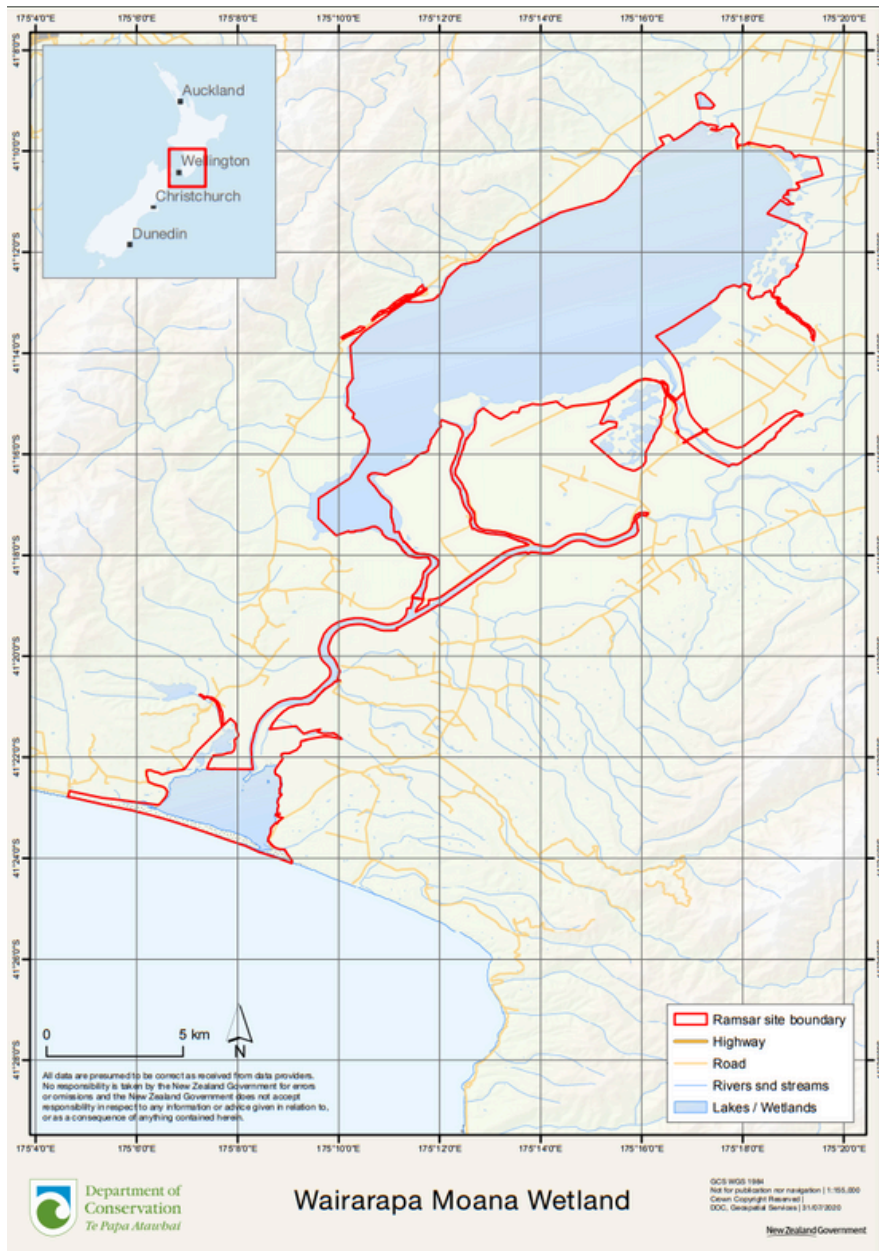


Figure 2.1: Map depicting the location of wetlands (New Zealand Government - Department of Conservation, n.d.).

This area encompasses several bodies of water, the largest being Lake Wairarapa which extends into freshwater marshes and swamps on its edges. In addition, the Ruamāhanga river connects bioregions such as Lake Ōnoke to Lake Wairarapa (Gunn, 2014; National Wetland Trust of New Zealand, n.d.). Lake Ōnoke is an estuarine lake, which bridges the Ruamāhanga river and Palliser Bay. Other features of the Moana include coastal marshes (see Figure 2.2), streams, and coastal shore habitats (Ramsar, 2020).



*Figure 2.2: Wairarapa Moana and Ōnoke Spit*

The prized biodiversity and presence of rare and threatened species in the Moana add to its ecological significance and it provides a habitat for many of Aotearoa New Zealand's endemic species. Flora and fauna in the Moana play a crucial role in shaping the ecological community, contributing to habitat complexity found in New Zealand's diverse ecosystems (Burlakova et al., 2011). They also contribute to the cultural significance of the region. Flax-leafed plants, including raupō, have served as traditional building materials for Māori boats and houses. In addition, raupō provides ecosystem value, purifying water for the benefit of prized tuna (freshwater eel) and providing habitats for endangered and rare birds such as the matuku-hūrepo (Australasian Bittern) (see Figure 2.3).





*Figure 2.3: Matuku-Hurēpo in Raupō (Williams, 2024).*

The region boasts a rich ecological history, with its inhabitants depending on and shaping the landscape from their first settlement. Early Māori residents cleared much of the forest upon arrival in the thirteenth century to grow crops, making way for secondary native ecosystems to take their place. Grasslands and swamps were among the most prominent habitats to emerge. European settlers, who arrived centuries later in the 1800s, brought the Moana through another series of transformations. They eliminated more forests, drained wetland areas, and replaced native plant species with agricultural pastures and exotic trees to protect farmland (Beadel et al., 2000; Halford, 2019). More recently, land-use infrastructure developments have contributed to declining water quality. The use of barrage gates on the Ruamāhanga River to prevent episodic floods has lowered water levels in the wetlands, enabling farming close to the shore of Lake Wairarapa. These episodic floods have sustained many of the region's delicate and interconnected ecosystems (Beadel et al., 2000). As modifications compound over time, the wetland's ability to renew and support biodiversity diminishes, impacting the people, plants, and wildlife who rely on its services.

## 2.2 Acknowledging Marginalized Qualitative Ecosystem Services

To examine viable solutions regarding human intervention in recent years, our film needed to assess through all relevant angles the potential impact that plant-based restoration could have on Wairarapa Moana. A 2019 study conducted on the Lake Rotorua catchment investigated the economic and ecosystem costs of potential alternative land use for the region (Mueller et al., 2019). Nutrient runoff from farms in the region had negatively affected the Lake Rotorua catchment producing toxic algae blooms (see Figure 2.4) feeding on excess nutrients. Similarly, nutrient runoff from farms has negatively impacted the health and holistic value of Wairarapa Moana.



*Figure 2.4: Algae Bloom in Lake Rotorua  
(Warning issued for Lake Rotorua and Ohau Channel, 2020).*

The Rotorua study explored how the implementation of nutrient caps in the region would impact the quantitative assets of land use (farming, forestry, and water provisioning) and the qualitative services offered by the region. These services included biodiversity, aesthetics, and recreation as the top contributors (Mueller et al., 2016). The 2019 study found that while nutrient mitigation negatively impacted quantitative assets such as farming, the qualitative service value increased. The study also acknowledged other negative implications such as farmers potentially losing their livelihood, land, and identity.

One key qualitative service missing from this study, however, is the value of the land to local people with cultural connections to Lake Rotorua. Considering that over 40% of the population in the Rotorua District is Māori, the depth and breadth of value associated with local community practices was completely missing from the value assessment of the region (Stats NZ, 2018). The 2019 Rotorua study and others alike can push this qualitative cultural

value to the margins. It was critical to include this service in our film to assess all angles of plant-based restoration. This includes examining its economic, cultural, and recreational potential for the Wairarapa.

## 2.3 Amplifying Indigenous Knowledge Systems of the Moana

A deeper look at the cultural services of Wairarapa Moana reveals its significant spiritual and cultural importance for iwi (tribes) who have deep roots in it as an early settlement and food gathering site (National Wetland Trust of New Zealand, n.d.). Māori in the region continue to rely on the Moana as a living ancestor supporting their physical well-being, spiritual connectivity, and collective prosperity (Halford, 2019). Through centuries spent in the area, Māori have gained and passed down knowledge of native plants and their uses. This often overlooked knowledge offers solutions that can increase both the qualitative and quantitative benefits of the Moana. In our film, we aimed to amplify this knowledge to explore the cultural importance and economic value of plant practices as a path towards restoration of Wairarapa Moana. A key example of this traditional knowledge is Rongoā, the traditional healing system in Māori culture that offers a medium for individuals to deepen their connection with their surroundings. Furthermore, it can connect the participants with their iwi, whānau (family), and whakapapa (genealogy) (Marques et al., 2021).

Rongoā rākau is the branch of Rongoā healing involving herbal plant-based remedies. Harakeke gel, kawakawa leaves, koromiko leaves, and mānuka leaves are examples of these herbal remedies. Physically, these remedies can aid in treating burns, arthritis, urinary problems, and head colds. Like Rongoā, the significance of Rongoā rākau far surpasses just its bodily benefits. In Māori tradition, both plants and humans are descendants of Tānē Mahuta, the god of the forest. Due to plants preceding humans and granting protection for future generations, they are regarded as having special significance over people (Marques et al., 2021). Māori people interact with these plants through Rongoā rākau to foster a bond with Tānē Mahuta as well as with ancestors and descendants.

A well-known example, the mānuka tree and its leaves, hold importance in Māori culture as a taonga (treasure). Used for generations as a natural antibacterial in Rongoā rākau, it has become a prominent worldwide export as the power of the mānuka tree has been promoted for health benefits (see Figure 2.5). Customers worldwide appreciate the honey from bees that pollinate the mānuka tree. One major buyer is the United States Military, which uses the honey in antibacterial wound dressings, making it a valuable export. (R. Smith, Personal Communications, Jan 16, 2025).

### **Whakapapa**

*(fa·kuh·pa·puh):*

Whakapapa is a Māori concept that refers to genealogy, ancestry, and the interconnectedness of all things. It's not just about tracing family lineage but also understanding relationships between people, the land, the environment, and the spiritual world.







*Figure 2.5: Mānuka plant that is abundant throughout Wairarapa Moana (Hitiri Native Plant Nursery, n.d.).*

Unfortunately, the transformation of mānuka into both a quantitative economic generator, through its exports, as well as a qualitative service, through traditional Rongoā practices, has faced challenges. Worldwide attention has brought unforeseen exposure and with it, a failure to acknowledge the cultural significance of mānuka to Māori people. A 2023 ruling brought this issue to a boil when Australia topped New Zealand in a legal trademark war over the use of the term “mānuka” (Jefferson, 2023).

Kawakawa, although not as commercialized as mānuka, is another example of taonga used in Rongoā. The oil secreted by the leaves of the kawakawa plant (see Figure 2.6) produces an antibacterial, moisturizing effect with a pleasant fragrance. Locals use kawakawa for respiratory diseases, skin diseases, and toothaches (F. Smith, personal communication, January 27, 2025). A more combined effort that fundamentally respects the sources of traditional knowledge while offering economic generation through commercialization could bolster both quantitative and qualitative values for the Moana—offering a plant-based step towards a shared future for Wairarapa Moana.





*Figure 2.6: Kawakawa Plant in Wairarapa.*

## 2.4 Amplifying the Voices of Partners

While the Indigenous practices of local Māori play a crucial part in restoration, weaving the knowledge of this lived experience into a broad collaboration with the wider community offers benefits. Restoration and healing of the Moana has been a process of developing a shared vision across multiple partners. With the establishment of the Statutory Board, power over the future of the wetland lies with local iwi and a set of government agencies. This does not encompass the full set of interest groups and impacted parties. Pastoral farming, for example, continues to be the region's dominant economic generator (Schrader, 2019). Decision-making across complex groups needs to honor livelihoods, recreation, foodways, community interests, and the acknowledgment of whakapapa through connection to whenua. The diverse viewpoints held by the partners in the Wairarapa region were reflected in our film, which aimed to present a nuanced and balanced approach by capturing these varying interests.

### **2.4.1 Local Iwi and Regional Interconnection**

As the health of Wairarapa Moana continues to decline, Māori from the region have felt the impact directly. Local iwi depend on the land and wish to preserve their lifestyle with many choosing to restore the land because of their spiritual ties to the Wairarapa through whakapapa (Chrisp, 1993). While often literally translated to “genealogy,” the meaning of whakapapa has a much deeper, nuanced meaning. For Māori, whakapapa encompasses their connections to ancestors, descendants, and the world around them (Mahuika, 2019). A sense of place—like Wairarapa Moana—maintains these connections by allowing Māori to experience the land as their ancestors did, while also ensuring a place for future generations. Thus, as the health of the wetland declines, so too does the wellbeing of Māori as the thread connecting them to their ancestors and descendants begins to fade. Restoring the Wairarapa involves healing both the land and strengthening the connection to former and future generations (Mahuika, 2019).

### **2.4.2 Farming and the Economies of the Moana**

Support for livelihoods in the Wairarapa makes up a significant component of efforts towards restoration. Due to the historical presence of fertile land surrounding the wetland, the agricultural share of regional GDP in the South Wairarapa region is over five times that of greater New Zealand (Ministry for Business, Innovation and Employment, 2019). Decisions made on behalf of the lake and the surrounding area include controversial instances of the government purchasing land from iwi who inhabit the region to benefit commercial farming. The impact that farming has had on the ecology of the region, however, does not mean that farmers themselves are against measures to sustain or reinvigorate the health of the region. Farms in the region actively participate in government-run emissions programs and consider the environment in their practices (Franco, 2023). These practices demonstrate that finding environmental balance is more nuanced than a simplistic view that farming is bad for the vitality of the Moana.

### **2.4.3 Local and Governmental Agencies**

Governmental agencies working in the region have an interesting goal of balancing the health of the region and the interests of the people. These organizations balance economic, environmental, democratic, and future decision-making in their policy creation and implementation. The Greater Wellington Regional Council (GWRC) is involved in the South Wairarapa region, one of the nine regions under their leadership. The Council recently unveiled its 10-year plan, which highlights a range of future goals for the greater Wellington region, including economic growth, public transportation, and environmental restoration.

The report includes past work that has contributed to restoration of Wairarapa Moana and their commitment to honoring the Statutory Board as the decision makers for the lake (GWRC, 2024). The plan aims to work with both the local community and the neighboring farmers to ensure that there is a fair and just compromise between interests (Paterson, 2024).

#### **2.4.4 Representation and Recognition for the Moana**

Recent efforts, like achieving Ramsar status, have benefited restoration efforts in Wairarapa Moana. Ramsar status enables countries to oversee, manage, conserve, and restore included sites to ensure their ecological stability (Australian Government, 2023). Continuing the push for restoration, the recent creation of a Statutory Board that features co-governance has given greater opportunity for restoration efforts, including those involving plants. The creation of the Statutory Board signified the return of decision-making for the Moana to local iwi. A 2022 decision to settle all historical Treaty of Waitangi claims for Ngāti Kahungunu, ended a battle that the local iwi have been fighting since the Crown originally took the land for colonial use. In addition to a public Crown apology, the settlement includes financial redress of \$115 million, and four out of ten seats of the Statutory Board being Ngāti Kahungunu appointees. The board is responsible for authorizing any use of the wetlands, acting as a guardian of Wairarapa Moana for the benefit of present and future generations (Te Rohe o Rongokako Joint Redress Act, 2022). While this does not offer full redress for hundreds of years of environmental damage and lost wealth, it creates the beginning of environmental, social, and cultural redress and allows for the start of co-governance as outlined in the Treaty of Waitangi.

Working with local voices from the Wairarapa presented the possibility to shape the story narrative. However, our goal was to let the residents speak for themselves with minimal intervention. We aimed to enable the many different voices and beliefs that can impact future restorative efforts to transcend our film and tell their story as directly as possible to the viewer. Our strategy was to use the power of storytelling to share their collective vision.

## **2.5 The Power of Storytelling for Wairarapa Moana**

One of the biggest strengths of our experience with listening was the chance to hear diverse groups in the Wairarapa community express their understanding of purpose. This was especially relevant to the Wairarapa because storytelling is a main component of Te Ao Māori (beliefs encompassing Māori culture). Pūrākau (storytelling) is one of the primary ways that Māori preserve and share knowledge (Lee, 2009).



Through the process of Kōrero, or the oral tradition of telling one's own story, Māori place themselves in relation to their whakapapa and the world (Ware et al., 2018). The interconnectedness of all things, especially to one's whakapapa, is central to Te Ao Māori and Māori well-being in general (R. Smith, personal communication, November 3, 2024).

Storytelling plays a crucial role in the decolonization of research. Research conducted by non-Indigenous people on Indigenous peoples has often imposed false narratives, exploited communities and dehumanized individuals (Smith, 2012). A shared research process through storytelling can provide a counter to the erasure and suppressions of Indigenous peoples and exploitation of their knowledge, which unethical research practices continue to perpetuate as a form of colonialism (Lee, 2009). Through a collaborative and respectful means of research, these historical wrongdoings can be acknowledged and challenged with ethical approaches that honor Indigenous voices.

In 2023, a team of WPI students partnered with members of the community to co-create a documentary about Wairarapa Moana, featuring stories from area residents and leaders (Olson, Sarah et al., 2023). The filmmaking process revealed the complex but powerful opportunity that this medium brings to documenting stories about a sense of place. Filmmaking can communicate and amplify injustice to wide audiences (Wiebe, 2015). It is shareable and can form the basis for an archive. Even with the benefits of film, there still exist significant pitfalls that teams can face when telling other people's stories. Primarily, that these are not the documentarian's stories. Recording injustice does not give a filmmaker the right to speak for the subjects of their documentary (Wiebe, 2015). A documentary film should serve as a platform for participants to share their own lived experiences and stories as they see fit and relevant (see Figure 2.7).



*Figure 2.7: Memory and Hineari Tewhaiti sharing lived experiences at Kohunui Marae, Pirinoa.*



Filmmakers must be extremely careful and ensure their work proceeds as a joint effort (Chanan, 2021). To gather additional insight into documentary filmmaking, we reviewed the 2023 project and met with Sarah Olson, a member of that team, to discuss our experience, as it exists as an extension of her project. She advised us that as we are conducting this discussion with the community, rather than for the community, things like building a rapport and making interviews a two-sided conversation are more important than asking the “right” questions or having a “perfect” interview format (S. Olson, personal communication, November 8, 2024).

## 2.6 Key Research Takeaways

Our research and communication highlighted key ideas that guided our work and allowed us to be effective listeners and storytellers. An important takeaway was the acknowledgement of a diverse knowledge base. We opened our own thinking to western scientific knowledge, traditional ecological knowledge, and Indigenous knowledge to gain key insights into environmental restoration and bridged the gap between ecological stability and cultural well-being. Appreciating this knowledge benefited not only the film, but also us as filmmakers telling the story of Wairarapa Moana. To be truly effective, restoration cannot fall to a particular group or organization. Like storytelling, restoration is a group effort. Shared decision-making and collaboration with multiple communities is crucial for success.



## Chapter 3: Capturing Perspectives

The **goal** of this project was to **create a film that highlights the potential for plant restoration to revitalize Wairarapa Moana**. To achieve this goal, we identified the following **objectives**:

1. Document the interconnectivity of the holistic Wairarapa region.
2. Explore the balance of perspectives and cultural identity through the lens of plant practices.
3. Investigate the investments and the impact of restoration on the local community.

This chapter outlines the methods our team used, motivated by our goal and objectives (see Figure 3.1). The chapter starts with a description of each of our methods (Section 3.1 Primary Methods). Then, we describe how our methods worked towards each of the objectives (Sections 3.2-3.4).

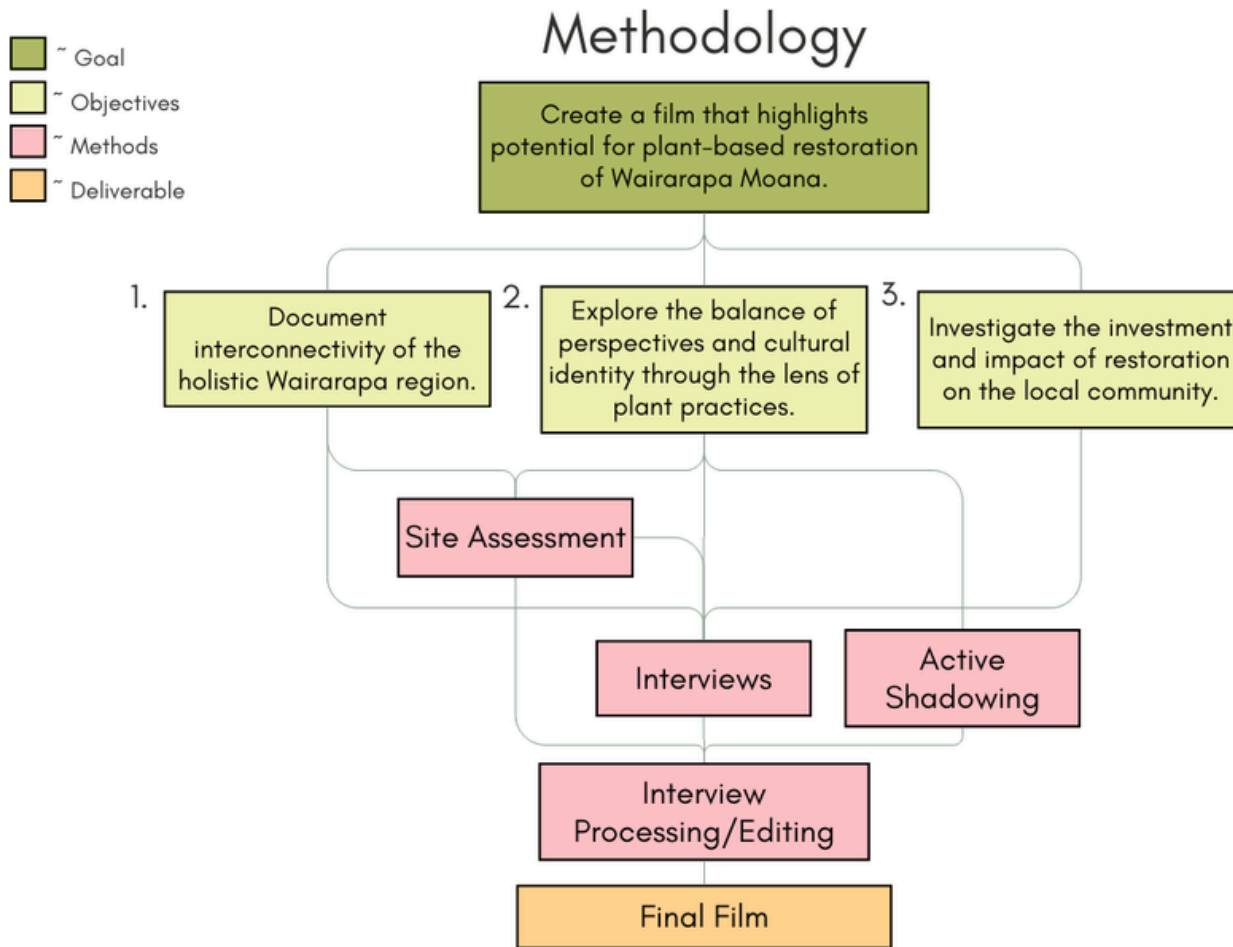


Figure 3.1: Flowchart depicting goal, objectives, methods, and outcomes

## 3.1 Primary Methods

### 3.1.1 Site Assessment

To support the interviews, the team conducted site assessments of the region, drawing on our collaborators' deep knowledge of Wairarapa Moana. These site assessments prioritized areas of the region that our collaborators considered most relevant to the project. This included touring regions on the Wairarapa coastline with restored native plantings, exploring flora in local forests, and taking a guided tour of a local farm. The site assessments gave us the opportunity to take photographs, shadow cultural practices, and capture B-roll for the film. B-roll refers to supplemental footage that enhances the main narrative by providing context or visual interest. By including plants and ecosystems in these shots, we aimed focus on significant and meaningful aspects of the Moana and its plants. Beyond media collection, site assessments also gave us the opportunity to experience the full scope of the Moana firsthand. These experiences helped us to better understand the stories of our interviewees, refine our ability to ask insightful follow-up questions, and guide the narrative during the editing process.



Participant observation and shadowing contributed to the creation of our film by giving us the opportunity to travel and explore Wairarapa Moana. This allowed our team to experience and document first-hand what participants had shared in spoken interviews. These experiences included recording farmers as they interacted with their environment, learning from Māori knowledge of treasured plants, and speaking with ecologists about the importance of plants in Wairarapa Moana. We endeavored to listen with care and co-create the content with community partners as we participated (Rennstam & Wästerfors, 2018). Interviewing stakeholders during participant observation introduced filming challenges not faced in our stationary interviews. With our multiple cameras and microphones, we were equipped to interview participants from two angles as they “walked and talked” (V. Bhat, personal communications, November 7th, 2024). Filming from multiple camera angles had the benefit of providing parity for these moments, allowing us to choose the best shot for our film based off lighting, subject orientation, and background. Group members who were not filming the interviews recorded B-roll, took photographs, and monitored audio.

### **3.1.2 Interviews**

We conducted 15 open-ended interviews with people connected to the Moana through plant restoration, culture, and livelihood. Our partners Ra Smith and Ian Gunn carefully selected and introduced the team to the interviewees based on their extensive knowledge of the area and its people. The participants reflected the diverse cultural, ecological, spiritual, and economic elements that characterize the region. In working with our collaborators to interview a range of people with different backgrounds and ties to the Moana we strived to minimize bias and emphasize a balance of opinions in our film.

These filmed, open-ended, on-site interviews gave our interviewees the freedom to tell their own stories. Our purpose in these interviews was to “enable people to express what they want to say and to find some way of understanding it” (Ward, 2014, p. 41). We utilized decolonized interview techniques by inviting interviewees to share stories and educate us, rather than relying solely on preset questions or seeking specific answers with premeditated expectations. As a part of this approach, we developed a list of interview prompts (see Appendix A) to help spark conversation. In following these prompts during our interviews, we allowed ourselves to adapt questions and follow up on potentially unexpected ideas or themes. We followed this approach to avoid coming across as unaware or distracted by preconceived notions (R. Smith & I. Gunn, personal communication, November 3, 2024).

When we could, our team conducted interviews in Wairarapa Moana. This promoted culturally sensitive conversations, creating a comfortable environment that allowed interviewees’ stories to flow freely. Before filming, we ensured our interviewees understood and signed consent forms explaining how this conversation would be used (see Appendix B). During the sit-down interview process, we used two cameras to record the conversation. One captured a close-up shot, while the other provided a wide-angle view (see Figure 3.2).





*Figure 3.2. Interview Setup with Two Cameras.*

This enabled us to choose between different angles for the interviews when spliced together into a film. Depending on factors such as the tone of the conversation and use of hand gestures we had the ability to choose preferable angles. This approach had the added benefit of providing redundancy in case of any technical challenges with the cameras. We utilized the location of the interview to add relevant context to our film. We conducted dynamic interviews in places where our interviewees could show their unique skills or understanding. We took lighting and sound conditions into consideration while still balancing relevant backgrounds, including Lake Wairarapa, the Ōnoke spit, and constructed wetlands.

### **3.1.3 Media Organization**

After every day of media collection, we categorized audio, video, photos, and field notes, adding metadata such as locations, key moments, and annotations. This organization provided a record of team activities and streamlined the editing process, serving as both a refresher and a guide for identifying and organizing the immense amount of data we collected.

Interview coding was our primary strategy for organizing footage into the categories of our three objectives. Although we organized the footage after filming, coding consisted of a more thorough inspection, identifying clips relevant to our objectives and sorting them by common themes identified from our interviews. This enabled us to separate the work of building a coherent and procedural story from the bulk of the editing and clip identification. When we started final editing and film creation started, the goal was to build an interesting and impactful film guided by these themes and their respective coded media.

### **3.1.4 Film Editing**

Editing encompassed splicing together the interviews that we recorded into one final film. Interview coding provided a sound starting point with an organized set of themes to edit. We utilized the editing workflow described in the book *Documentary Voice & Vision* by Kelly Anderson and Martin Lucas (Anderson & Lucas, 2016). The strategies outlined provided valuable insight into addressing the specific challenges of editing a documentary. The biggest challenge we faced was entering the project without a predetermined story. This approach was intentional, as we wanted our interviewees to guide the narrative rather than fitting their perspectives into a pre-constructed framework. However, this prevented us from preparing a storyboard and other supplemental materials, like a shot list, prior to our time in New Zealand. It was only after we completed most of the filming that we could consider identifying a story from the many emergent themes explored in our interviews. Once at this point, we used a paper edit, a written outline highlighting crucial quotes and themes, to help organize a broad overview of the story that we felt respectfully reflected our interviews. With this paper edit we could then start taking the organized interview clips and placing them within a story timeline, cementing the story with actual interview media. This organization then allowed us to work on making our film cohesive for a viewer. This included choosing where to put A-roll, or primary footage, and B-roll, working with transitions in audio clips, and adding transitions between parts of the story. At this stage, we showed this “rough cut” to some of our partners and peers for review and creative feedback. After responding to feedback, we worked on a final cut, finalizing timing and transitions between clips.

## **3.2 Document the Interconnectivity of the Holistic Wairarapa Region**

Our first objective was to document the interconnectivity of the holistic Wairarapa region. We achieved this objective by conducting interviews with people who hold deep lived experience strong connections to Wairarapa Moana, capturing their stories, insights, and sentiments. The Moana supports many diverse groups of people with different experiences and expectations of the lake. We explored their viewpoints through the common theme of plants to highlight the unified interconnectivity that exists not only within the diverse ecosystem of the Moana but across these distinct and deeply personal perspectives.

## 3.3 Explore the Balance of Perspectives and Cultural Identity Through the Lens of Plant Practices

Considering cultural identity in our balance of perspectives was crucial in building a story that can highlight the potential that plant practices have in restoration for all of Wairarapa Moana. Our method of promoting a comfortable, conversational setting for interviewees prompted them to discuss unique, nuanced, and sensitive perspectives and experiences. We guided interviews with prompts exploring the importance of plant practices to gather stories related to cultural identity. These perspectives provided a necessary look into how cultural identity plays a part in the greater story of Wairarapa Moana.

During the site assessments, we furthered our understanding of differing perspectives and cultural significance. In addition to interviewing, we utilized active shadowing and participant observation to achieve this objective. Whether farmers, practiced healers, or anyone with a sense of place within the Moana, the hands-on nature of these methods was essential in fully grasping how people connect and identify themselves with the area. Applying these methods to highlight perspectives and identity was imperative for our film.

## 3.4 Document the Interconnectivity of the Holistic Wairarapa Region

To achieve this objective, we conducted interviews to better understand the required investment for restoration. Interview prompts for this objective included, “How have you seen Wairarapa Moana change in the past, and how would you like to see it change in the future?” and “If change or restoration occurred, how do you see it impacting you?” We designed these prompts to allow interviewees to talk about the cost of restoration and the impact change has or will have had on interviewees. Additionally, we designed our filmmaking and editing strategies to accurately convey the cost of change regarding each of the major stakeholders' lives through visual storytelling, careful selection of excerpts, and the integration of B-roll footage that highlighted both the environmental and personal dimensions of restoration. By combining spoken narratives with imagery of the land, waterways, and communities affected by restoration efforts, we aimed to create a film that authentically represented the challenges, hopes, and trade-offs involved in restoring Wairarapa Moana.

Our project team was well-prepared with a methodology to foster open and comfortable interviews, enabling us to collect data in the form of video, audio, and photos for our film. Through site assessments we found ourselves learning firsthand the diversity in people, plants, and viewpoints that comprise the holistic Wairarapa Moana region. These methods allowed us to collect data that led to the successful creation of our film, as detailed in the next chapter.







## Chapter 4: Findings and Insights

During our time in Aotearoa, the project team worked closely with our collaborators to plan and coordinate shared experiences with key figures in Wairarapa Moana. Our points of contact in the community guided us, including Ian Gunn, Rawiri Smith, Vern Brassell, and Francis Reiri-Smith. Working alongside them, we explored focal points of the landscape, including the Ruamāhanga River, Lake Ōnoke, Lake Pounui, Lake Wairarapa, and the barrage gates. These trips were the groundwork for interviews and site explorations that followed. We interviewed 15 individuals (see Appendix C), including those with backgrounds in ecology and farming, some of whom were Māori. These interviews provided a holistic, diverse view of plant-based restoration in the region. The themes explored in the interviews constitute the results of our project and the ideas our film presented. We are truly grateful for our interviewees' enthusiastic participation in co-creating this documentary with us. This chapter highlights the key results related to our project's objectives obtained from these interactions.



## 4.1 Document the Interconnectivity of the Holistic Wairarapa Region

Providing a comfortable, open-ended interview process for our interviewees allowed our film to convey a holistic picture of Wairarapa Moana as a shared ecosystem, eliciting personal stories providing to the greater story of Wairarapa Moana. Providing an environment for a naturally flowing conversation was crucial in forming an open conversation, rather than a formulaic survey, about plants and their role in restoring Wairarapa Moana. We followed a loose script and guided the interviews with questions and natural follow-ups. This provided answers relevant to plant-based restoration in the Wairarapa while still allowing the interviewees the freedom to discuss themes and relay stories in their own personal way.

We presented these stories alongside the universal physical elements of the Moana. We interwove the interviews with B-Roll of the waters of Lake Wairarapa, the constructed wetlands, or the rivers that feed Lake Wairarapa. Including these shots of the water throughout our film provided a visual connection between people's experiences and the water of the Moana itself. Our interwoven shots included many of the plants emphasized in the interview discussions. The intent was to reinforce the idea that Wairarapa Moana is not just a body of water, but a living, interconnected ecosystem and way of life.

The conversations recorded during the interviews preserved powerful moments of emotion and visually illustrated the details that the interviewees share. When interviewing Tony Silbery (see Figure 4.1), a conservationist involved in restoration in the Wairio wetlands in Wairarapa Moana, we guided the questions towards the decades of restorative work that he had done. His quote demonstrates our interview style.



“I’ve done my bit. What I hope is that somebody is going to stand [here] in a different and vibrant landscape and say if 30 years ago the landscape would look like this no one would believe me. I had that very experience”  
- Tony Silbery

*Figure 4.1: Tony Silbery Explaining Restoration in Wairio Wetlands*



*Figure 4.2: Sample shots from B-roll footage*

To interweave Tony’s words with the physical place we included B-roll relevant to his message as carried by words and delivery. We included the below shots interwoven with the A-roll collected from there (see Figure 4.2).

One unexpected benefit of using an open-ended interview format was that we were able to learn areas of interest during our interviews and facilitate a “deeper dive” into those topics. Consequently, this encouraged our interviewees to share personal experiences and beliefs that fit into the themes present in this project. In interviewing Ra Smith (see Figure 4.3), our approach facilitated him to lead the conversation. In this manner, he shared with us emotionally powerful statements about the holistic value of Wairarapa Moana and the true gravity of its worth to him.





“I do feel really woven into Wairarapa Moana... and more than just a home. Sometimes you’re in awe of the life force... the land. You’re surrounded by a chamber of noise... with whanau [family], and they’re all loving themselves and each other.”  
- Rawiri Smith

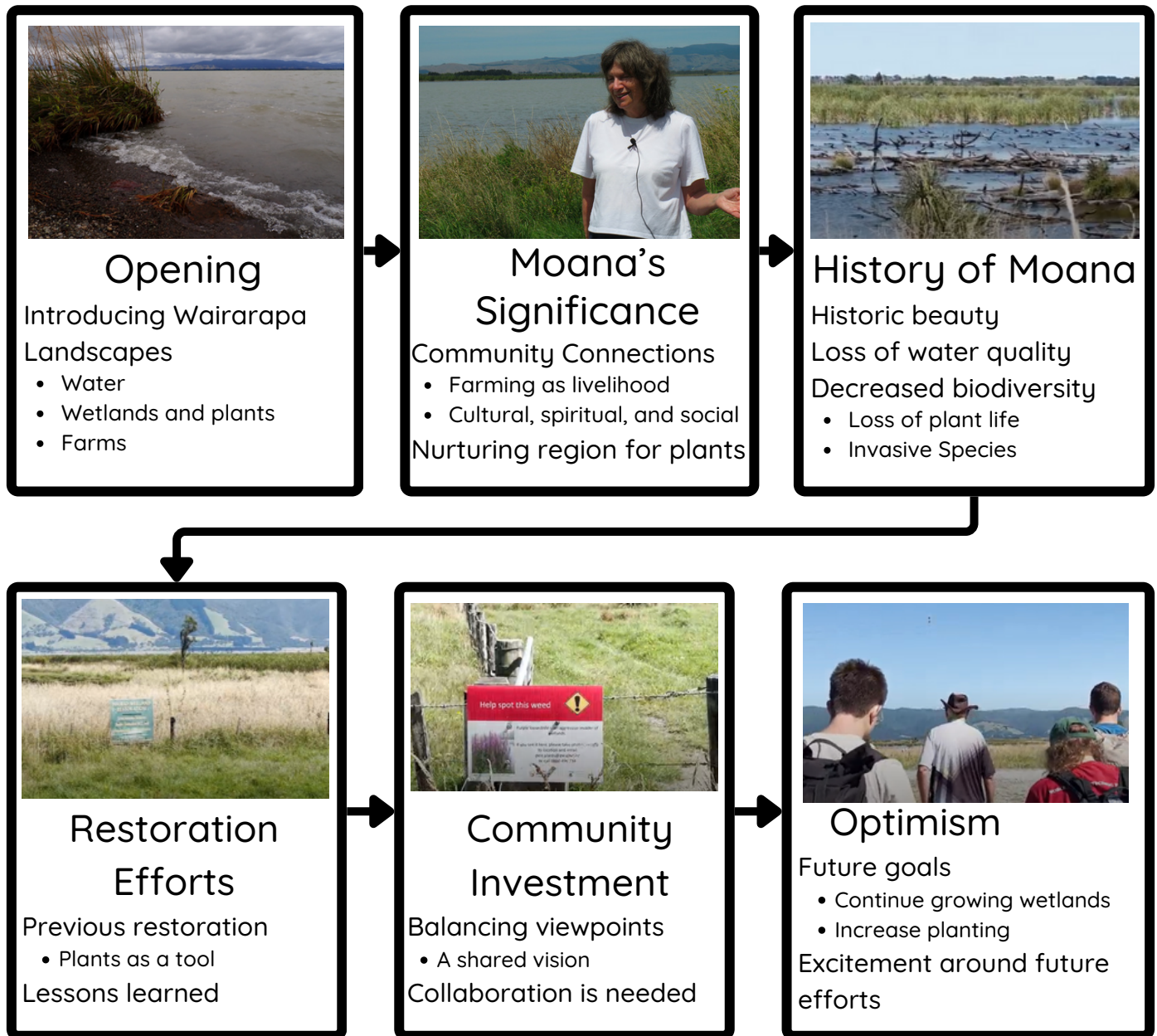
*Figure 4.3: Rawiri Smith discussing his connection to Wairarapa Moana.*

To convey in our film this idea that Ra shared with us, and to reflect the interconnectivity of the Moana region, we spliced in B-roll in a similar approach we used to present Tony Silbery. To communicate the power of the lake in providing a sense of place, we chose to echo Ra’s quote with shots that convey the physical greatness of the Moana, the power of the water flowing through the wetlands, and the ecosystem vitality supported by the lake.

## 4.2 Balancing Perspectives and Identities in Plant Based Restoration

The work done by our collaborators to provide connections and facilitate interviews with a wide range of people with deep lived knowledge enabled our success in providing a balanced picture of Wairarapa Moana as it spans time and identities. We included 14 out of the 15 people whom we interviewed in our film. While striving to include all the interviewees, we omitted one to aid in the cohesion of the film. With our 14 inclusions, our film provided a view of the greater views and themes emergent in our interviews while providing a cohesive, flowing film.

In our editing process, our outline (see Figure 4.4), provided a valuable organizational tool to aid in including these different perspectives in an organized, cohesive manner. Our outline explores the many different perspectives as they relate to plant-based restoration as it has existed, as it exists now, and how it can exist in the future. In addition, it helped organize certain common themes, including the cultural and economic relations of the Moana.



*Figure 4.4: Film Outline*

During the process of collating interview clips identified in interview coding into one film we noticed that some of the perspectives of plant-based restoration differed. In our film we took this as an opportunity to highlight the diverse perspectives we saw while also bringing them together in one unified picture. In our interviews, some stated that the restoration work in the Wairio wetlands is complete, while others emphasized the need for a more involved approach. By including both viewpoints, we highlighted where and how perspectives within Wairarapa Moana can overlap and differ.

## 4.3 Investigate the Investments and the Impact of Restoration on the Local Community

Our film investigated restoration priorities as they ranged from continuing improvement in the health of the reconstructed Wairio wetlands, protecting newly planted shoreline plants, reducing the environmental impacts of farming, and helping Wairarapa Moana revitalize its vibrant mauri (life force), dulled from environmental degradation.

Everyone interviewed brought to our conversations a unique perspective in terms of the promise that plant-based restoration holds for the Moana. In addition, they expressed appreciation and respect towards differing viewpoints. Ecologists who may advocate for transitioning farmland away from traditional farming practices to restorative efforts acknowledge the severity of the request. We explored this in our film through looking at small scale, plant-based restoration on farms as a method to improve environmental quality.

Through engaging with Māori residents, it became evident that the Moana and its surroundings reside as a core part of their identities. These interviewees looked at the region macroscopically, understanding that beyond a nurturing habitat for wildlife and source of livelihood, the region holds special cultural and spiritual significance as a living ancestor. In talking to Tia Tuuta, a local expert and Rongoa practitioner, she explained to us how it takes intricate spiritual knowledge to fully honor plants in making fully healing medicines (see Figure 4.5).



“Anyone can make a balm, but not everyone can make a pani (Māori balm) because you need that spiritual side in order for it to become a pani.”

- Tia Tuuta

*Figure 4.5: Tia Tuuta explaining the importance of spirituality.*

In one memorable moment included in our film, Frances Reiri-Smith (see Figure 4.6) led us through native bush where she introduced kawakawa, and its wide ranges of benefits to heal physical ailments.





*Figure 4.6: Frances Reiri-Smith sharing knowledge of kawakawa.*

An idea that emerged in our interviews was the challenges involved in a multi-faceted, collaborative restoration approach. However, this often brought forward the question of what opportunities lie in future restoration practices to solve these problems, and how plants can be involved in them. One opportunity identified was the ability to use collaboration as a tool to build effective attainable restorative efforts.

## 4.4 Emergent Themes

While editing our film, we identified recurring themes in our interviews that were more abstract than the initial topics we had intended to explore to achieve our objectives. These themes surfaced consistently, offering an alternative framework for structuring our film. Rather than relying solely on a predetermined storyboard, we structured our film around a loose outline that emerged alongside these reoccurring ideas. Ultimately, we concluded the film with two key themes, collaboration and optimism, highlighting them as essential considerations for future restoration efforts.

Collaboration emerged as one of these recurring themes, consistently highlighted as essential for future restoration efforts. Those with prior experience in restoration emphasized its significance, noting that working within groups and engaging with the wider community was crucial to their success. Vern Brasell, a leader at Kaiwaiwai Dairies, echoed this sentiment when discussing the role of collaboration in the success of his constructed wetlands (Figure 4.7). He offered insights into why collective efforts are vital for the restoration of Wairarapa Moana.

When asked about the outlook going forward, all interview participants described themselves as being optimistic. Whether that came from seeing the results of the last few decades of work, or as a pragmatic requirement for continuing the work, most views of the future were positive. Shannon Bentley, a senior advisor for Biosecurity Systems, championed this message when expressing her views for the future of restoration in the area (Figure 4.8).



“You need to encourage someone else to join you... there’s many ways of achieving it [restoration] and it’s not just your way”  
- Vern Brasell

*Figure 4.7: Vern Brasell explaining the importance of collaboration.*

“I feel optimistic that we’ll get to a state where our Moana is thriving... we’re moving in the right direction”  
- Shannon Bentley



*Figure 4.8: Shannon Bentley elaborating on the future of restoration*

## 4.5 Discussion

Our perception of Wairarapa evolved as our project progressed. Initially, we had a conceptual understanding that there were differing opinions on restoration and various interpretations of the current state of the Moana. However, as the project continued, it became increasingly clear that there were also variations in how Wairarapa Moana partners view progress. With each interview, our understanding deepened, offering a clearer and more nuanced view of the region. Across these responses, the emotional connection to Wairarapa emerged as a common thread.

The creative journey of making our film took many forms from start to finish. Initially, we were uncertain about the direction our project would take. We envisioned a film that would blend personal narratives, ecological insights, and footage capturing various aspects of the Wairarapa region. However, as we progressed, we faced challenges in seamlessly connecting each part of the story. While the final documentary highlighted restoration, there was ultimately a greater emphasis on personal stories and visual storytelling. The result was a film that allowed an audience to connect with locals while also highlighting the importance of collaboration and conveyed an optimistic outlook for restoration and the region's future.

## 4.6 Limitations

Our largest limitation was the amount of time it took to edit the many hours of filmed interviews, B-roll, photographs, and audio clips into a single documentary. Our interviews extended longer into our seven-week timeline than initially planned, and we were limited by the amount of time that we had to build a complete edited film. Our goal shifted to provide a shorter, more meaningful cut than to use the full length of film we shot while on location. This allowed us to reach all our objectives for our film within the seven-week period.







## Chapter 5: Lessons Learned

Throughout this project, we were exposed to new cultures, worldviews, and perspectives on plant restoration in Wairarapa Moana. We also built new skills that could tell the stories of those connected to the region through film. This experience deepened our understanding of both filmmaking and meaningful communication. Like restoration itself, learning and creating thought-provoking content is a dynamic, multidimensional process.

### 5.1 The Importance of Fostering Inclusive, Community-Led Restoration Efforts

Restoration is an action that incorporates personal experiences, cultural connections, and environmental goals. Some envision bringing Wairarapa Moana to a benchmark in time—such as when its waters glistened blue—while others see it as a thriving wetland in the context of compromise and existing limitations. Some advocate for allowing nature to heal itself, whereas others support active intervention. We quickly realized that none of these perspectives were wrong; rather, they are points of contact representing the trajectory of how residents connect with the land.

Some shared agreements emerged. Foremost, a deep care and respect for the Moana. We saw firsthand how shared action, whether through formal structures like the Statutory Board or informal community efforts, plays a crucial role in moving restoration forward. The importance of integrating multiple knowledge systems, including western science, Indigenous wisdom, and lived experiences, will boost restoration efforts. Fostering inclusive, community-led initiatives ensures participation and reflects the values and aspirations of all who cherish the Moana.

## 5.2 Approaching Filmmaking with Openness and Empathy

As a team, we learned that storytelling through film is not just about asking questions but about hosting meaningful conversations. While direct questions elicit answers, open-ended discussions allow people to share their experiences and perspectives in a more profound way. This approach led us to a richer understanding of how people see the past, present, and future of Wairarapa Moana.

We realized the importance of approaching the filmmaking process with flexibility and respect. Rather than imposing a predetermined narrative, we found that allowing the story to unfold naturally led to a more authentic and meaningful film. Building trust with interviewees was essential; we prioritized listening, forming genuine connections, and sharing a bit of ourselves before stepping into the role of interviewers. This was particularly significant in working in Māori communities, where reciprocity and cultural respect are fundamental. Small but meaningful actions—such as sharing our pepeha and acknowledging our own connections to land and water—helped create an open and respectful environment for our interviews.

Our biggest lesson was that effective storytelling is not about fitting everyone's voices into a structured format but rather about ensuring that we represent our interviewee's truths with authenticity and care. We tried to prioritize openness, empathy, and respect, to create a film that truly reflects the depth and range of experiences dedicated to restoring Wairarapa Moana.

## 5.3 A Note on Qualitative Research

Over the course of the last several months of working on this project, the team fully immersed ourselves in the qualitative research process. In doing so, we discovered just how important this work is in collaboration with our STEM curriculum. Prior to our arrival in Aotearoa New Zealand, we dedicated several weeks to researching our project. We combed through academic journals, government websites and documents, historical accounts, and prior studies to establish a solid foundation of knowledge. However, despite this extensive preparation, it was not until we arrived in Wairarapa and engaged with the people who have spent their lives there that we truly understood the depth and significance of the region.

Our initial approach to research was rooted in data collection and analysis, but what we encountered in the field transcended raw information. When we spoke with people, we were not simply gathering data points; we were receiving their personal experiences, insights, and stories. These stories carried an emotional weight that numbers and statistics alone could never fully convey. The passion and dedication of the individuals we met illuminated aspects of Wairarapa Moana that could not be captured through traditional scientific methods. Through their words, we felt the history, the struggles, and the deep connections they had to the land, water, and culture.

Every interaction in Wairarapa became a learning experience that extended beyond the structured boundaries of a classroom. As people showed us their environment and shared their knowledge, they welcomed us into their lives. In these moments, the traditional roles of student and teacher became fluid. We learned to ask meaningful questions, not just to extract information but to understand perspectives. Rather than solely relying on predefined research frameworks, we embraced the idea that our work should be shaped by the voices of the people who are most directly affected by the issues we were studying.

One of the most profound aspects of this experience was our engagement with Māori culture. It challenged us to think beyond the lens of academia and engineering, encouraging us to reflect on our own identities—not just as students or professionals, but as individuals shaped by the people and places around us. We considered our own whakapapa, or lineage, and how our past influences the way we approach our work. This broader perspective is essential in engineering, as the choices we make in our careers have real-world implications for communities. Understanding the values and lived experiences of those who will be impacted by our decisions allows us to create solutions that are not just technically sound but also socially and culturally responsible.

This project pushed us beyond our comfort zones as students, helping us to develop a more comprehensive understanding of the world around us and the role of qualitative research within STEM fields. It is the collective opinion of our team that qualitative



research is not just a complementary tool but a necessary one in higher education for STEM students. The experiences we had in Wairarapa Moana are a testament to the invaluable insights gained through qualitative research. It is through these personal connections and real-world experiences that we can truly understand the complexities of the issues we study, making us more thoughtful, empathetic, and effective professionals in our respective fields.

## 5.4 Conclusion

In making our documentary, we came to understand that restoration is as much about strengthening human relationships as it is about revitalizing the landscape. The warmth of our engagements reflected a shared commitment to a sustainable future—one that honors both ecological integrity and cultural heritage.

Wairarapa Moana is more than an environmental site; it is a place of history, spirituality, and identity. Native vegetation is essential not only for the ecological health of the Moana but also for the well-being of those connected to it. For the people we spoke with, restoration is deeply personal and woven into Māori traditions, ancestral ties, and lived experiences. The ongoing environmental challenges facing the Moana highlight the urgent need for collaborative, thoughtful restoration efforts.

Through this project, we gained a deep appreciation for the power of storytelling in environmental advocacy, particularly in elevating indigenous knowledge. The film captures both optimism and concern in a way that resonates beyond scientific or policy discussions, reaffirming that restoration is not just about ecosystems—it is about people, relationships, and the shared vision for the future. Looking ahead, we hope our film serves as a tool for education, awareness, and advocacy. More than anything, we hope those who shared their stories with us feel proud of our work in preserving and amplifying their voices, ensuring their connection to the Moana is recognized and valued for generations to come.



*Figure 5.1: YouTube Thumbnail of our Film.*

Our documentary can be found at:  
<https://www.youtube.com/watch?v=p71G0YiaUX0>

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# Appendix A: Interview Prompts

## **Plants:**

- Can you tell us about your own experiences with the plants of the Wairarapa?
- Could you describe the role you see plants having in restoration?
- Have you been a part of any successful restoration efforts that utilize plants?
- How do you interact with plants in your daily life?

## **Cultural Identity:**

- Can you describe how Wairarapa is woven into your identity?
- Can you describe how plants play a role in your cultural identity?

## **Restoration:**

- What do you picture when you think about restoration?
- What does restoration mean to you?
- What do you think the impact of restoration would be?
- Can you talk to us about how restoration would impact you personally?
- What investment would be necessary for this change?

## **History**

- Could you tell us about your personal history with the Wairarapa?
- Could you talk to us about what you know about the history of Wairarapa?
- How have you seen Wairarapa change? Has it been a fast or slow change?

# Appendix B: Interview Consent Form

The following appendix contains a consent form that will be presented to each interviewee prior to their interview. Based on the responses provided on the consent form we will respect their wishes regarding what is recorded and shared as part of our final project.



We are a group of students from Worcester Polytechnic Institute (WPI) in the United States. We are conducting recorded interviews for the purpose of putting together a documentary highlighting relevant viewpoints, including yours, about plant-based restoration in the Wairarapa. If you are willing to participate in this project, please read and note your preferences on this form. The final film, which may include audio and video from this interview, will be made publicly available on the internet.

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Do we have your permission to record video of this interview? Yes  | No

Do we have your permission to record audio of this interview? Yes  | No

Will you allow us to include your name and other identifying information (such as a photo) in a film that will be made publicly available? Yes  | No

Will you allow us to use your words for use in a film that will be made publicly available? Yes  | No

Do we have permission to include portions of this interview, meaning both audio and video, in a film that will be made publicly available? Yes  | No

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I understand that these interviews will be published at WPI for educational purposes. At any time I may choose to decline to answer any question asked during this interview. After this interview, the student team will provide a debrief where I can revoke this consent or request the team not include specific parts of the interview.

Signature: \_\_\_\_\_ Print: \_\_\_\_\_ Date: \_\_\_\_\_



## Appendix C: Interview Timetable

Date	Interviewee	Location
23/1/25	Tony Silbery	Wairio Wetlands, Kahutara
23/1/25	Pat Enright	Featherston
30/1/25	Frances Reiri-Smith	Rathkeale College, Masterton
3/2/25	Rawiri Smith	Overlooking Lake Ōnoke, Lake Ferry
4/2/25	Phillipa Crisp	Overlooking Lake Wairarapa, Lake Domain
12/2/25	Shannon Bentley	Downtown Wellington
12/2/25	Stephanie Tomscha	Downtown Wellington
14/2/25	Ian Gunn	Overlooking Lake Wairarapa, Lake Domain
14/2/25	Vern Brasell	Kaiwairarapa Dairies, Tauwharenikau
17/2/25	Ella Buckley	GWRC Office, Wellington
13/2/25	Julie Deslippe	Victoria University of Wellington
20/2/25	Memory & Hineari Tewhaiti	Kohunui Marae, Pirinoa
20/2/25	Pikitia Tuuta	Ruamahanga Cutoff, Kahutara
24/2/25	Katie Brasell	Waingawa River, Masterton