

Bridging the Gap: Indigenous Methods as Necessity to Heal Landscape and Enhance Cultural Identity

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New Zealand's landscape is an invaluable resource that is often taken for granted and undervalued in today's economy. Providing economic benefits alongside cultural identity results in a diminished landscape as the population expands and development sprawls. A shift in thinking is required to ensure the natural environment is protected for the future – a shift that acknowledges the amenity value of the land and the embodied indigenous knowledge.

This paper examines Lake Wairarapa, the third largest lake in the North Island of New Zealand located only 80km northeast of the capital city Wellington. Historically the lake covered 210km² holding some of New Zealand's most significant wetland systems. Today the lake has shrunk to 78km². This significant drop in area is due to the introduction of farming including both agriculture and horticulture, which have also now become the primary sources of pollution. The rapid decline in the quality of the lake has resulted in a landscape in desperate need to be healed.

This paper explores how this threatened natural land can be used to motivate the design of a regenerating ecosystem that not only provides amenity value but also begins to mitigate the adverse effects of inevitable development. It trials the use of traditional indigenous Māori healing methods to restore the underlying ecological function that benefits the environment and the Greater Wellington Regional Green/Blue Infrastructure.

Problem Statement

Natural systems throughout New Zealand that remain unharmed are in decline. This started in early European settlement with the introduction of new resources and a mind-set driven by economics. Pre-European New Zealand was a land of bog, marsh, and peatlands, resulting in the majority of the land cover being a large-scale wetland. Over the past century “90% of these wetlands have been destroyed or significantly modified through draining and other anthropogenic activities” (Harmsworth 2002: 8) supported by governmental Acts that date back to 1908, in order to provide land for farming and built development.

Lake Wairarapa, historically the third largest lake in the North Island of New Zealand once held some of the country's most significant wetland systems. The combination of farming in both agriculture and horticulture has resulted in a loss of 37% of the lake area to industry – an area of 132 km² (Figure 1). The addition of infrastructure such as stop banks, drains, and constant pumping stations combined with clearance for productive pasture are the primary sources of pollution and have significantly reduced the quality of the lake.

The region is home to two Māori tribes, *Kahungunu ki Wairarapa* and *Rangitane o Wairarapa*. These tribes were put into a difficult position during the settlement wars, and as a result they gifted the lake to the British Crown. The lake and the surrounding land historically provided for the people through means of transport, food, medicine, material and it also held deep spiritual connections. Following the change of ownership, the lake deteriorated to its current condition. This paper explores how traditional healing concepts practiced by Māori can aid landscape architecture and find more resilient alternatives to the heavily engineered infrastructural solutions enacted and proposed. In doing so, there is also the potential to heal the people.



FIGURE 1. Historic (hatched) and current (white) area of Lake Wairarapa.
Author: A Hunter



FIGURE 2. South Wairarapa region showing natural and built infrastructures.
Author: A Hunter

South Wairarapa

Lake Wairarapa sits beneath the Ruamahanga ranges. Currently the lake is approximately 2.5 meters at its deepest point, more than 3.5 meters shallower than in its recent past. The two main water sources that fuel the lake are the Ruamahanga and Tuaherenikau Rivers (Figure 2).

Public infrastructure has disturbed ecological tendencies occurring pre 1950's but has contributed to reduce the impact of flooding in the area. The implementation of a 4.2km long and 500m wide river diversion in the Ruamahanga River in a form of a channel has enhanced productivity through agriculture and horticulture but has also deeply damaged the wider ecosystem. In the last 60 years the communities living in the region have suffered equally, experiencing a decline in overall education and well-being; a reduction in the quality of their water quality and a loss of the aesthetic value of the waterways. As a consequence, people tend not to respect the presence and life of the waterways as they had in the past. Due to the development of the lower Wairarapa valley flood scheme and the introduction of a river diversion, much of the lake and surrounding wetlands have been drained or modified and areas of water have been diverted to allow for a more controlled and managed environment. The natural systems no longer provide a mean of recreation, food, medicine, transport and so forth.

Healing the Landscape

Over the years following European colonisation, there have been numerous arguments around the increasing decline in awareness of cultural landscapes and practice of traditional Māori methods. The use of chemicals, technologies and land modification have taken its toll on natural practices. This not only affected the land, but also the people who witness and experience the changes (Figure 3).

Rongoā Maori is a traditional healing system that focuses on the oral transmission of knowledge, diversity of practice and the spiritual dimension of health and wellbeing. It encompasses herbal remedies, physical therapies and spiritual healing (Ahuriri-Driscoll 2008).

The idea of 'healing' is widely understood as a method primarily applied to a person; however this same method can be adapted to the land "*since the land should be our first patient*" (McGowan 2009). Rongoā is the term for the traditional Māori methods practiced by *tohunga* (experts, healers); it is a way of living through the weaving of nature, *wairua* (spirit) and people to form a realm of well-being. This holistic indigenous method is about understanding the land and what it provides, requiring one to have a greater knowledge of the condition of the land, thereby gaining an understanding of what is causing the problem and facilitating a design solution.

Principle	Attribute	Application
CONNECTION	<i>Physical connection will create an overall positive reaction in terms of well-being and will allow the river to preserve the mauri (life) it once held</i>	<i>The design proposal deconstructs the Ruamahanga cut-off and allows the reconnection of the Ruamahanga River to Lake Wairarapa.</i>
DIVERSION	<i>The conceptual development has led to the diversion being formed around the perimeters of the original land forms</i>	<i>By developing an ephemeral flood plain that fluctuates with flood events around the lagoons proves to be a solution in blurring the lines between infrastructure and natural systems.</i>
WETLANDS	<i>Wetlands as a natural system may be constructed within the lagoons in order to provide filtration of any unnecessary pollutants, nutrients and sediments that contribute to the decline in regional water quality</i>	<i>Three different wetland systems have been implemented. The first lagoon will be a sediment basin that allows the further two lagoons to become online surface flow wetlands. Through the incorporation of restoration and farming the local private owners may consider to allow riparian buffers along drains and water races that connect to the wider riparian buffers along streams and the Ruamahanga River</i>
RONGOĀ	<i>Rongoā is introduced throughout the design, incorporating principals of matauranga Māori (Māori knowledge) in all decisions, considering mauri (life) mana (strength) and the atua (gods). The design also comprises Rongoā whaka as the use of plants through spiritual connection and physical use.</i>	<i>Plants were selected to add not only a experiential space but to allow for traditional Māori practices of Rongoā and to also for the public to be educated on traditional matauranga Māori (Māori knowledge) through learning about plants in terms of medicinal uses, food production, material uses and through the systems and connections of the surrounding waterbodies.</i>

TABLE 1. Design principles established with the typologies. Each design principle is explained in terms of attributes and design application.

on the significance of cultural landscape, hereby increasing diversity, and healing both the land and the psychic damage to the people through the process of restoring a damaged environment.

To test this proposition, this study has explored the softening of the hard infrastructure, with natural systems and cultural practices. The river diversion is a place of hard infrastructure and it is here where the analysis led to the establishment of three different typologies making it something more than a simple restoration project. These typologies surround the uses of water and water storage, material production and restoration, as well as food production and restoration as summarised in Table 1. To be a viable option and taking into consideration the site's location amongst productive agricultural lands, un-doing the historic linear approach must be balanced with the needs for beneficial economic growth.

Conclusion

This study has developed and tested an approach whereby cultural concepts and practices aid landscape architecture in the creation of new/old methods for healing. They reinstate the connections between man and his environment as well as create experience and engagement for the public with indigenous knowledge. This strategy also allows the infrastructure to become one with the natural systems to create a more sustainable environment, providing ecological and economic benefits. The process involves the shift of current thinking to consider landscape as a complex and valuable asset that adds to our cultural identity and spiritual well-being as well as our economic benefit.

References

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