

# Let the Rivers Speak thinking about waterways in Aotearoa New Zealand

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## Abstract

This article explores deep underlying assumptions about relationships between people and the planet, and how these translate into very different ways of relating to waterways in Aotearoa New Zealand. In te ao Māori – ancestral Māori ways of living – rivers and lakes are the tears of Ranginui, the sky father, mourning his separation from Papatūānuku, the earth mother, and people are their descendants, joined in complex whakapapa that link all forms of life together. In modern ways of thinking, on the other hand, ideas such as private property, resource management and ecosystem services can be traced back to the Genesis story of God’s gift of ‘dominion’ to Adam and Eve over fish, birds, plants and the earth itself, including waterways, in which all other life forms are created for human purposes.

In successive Waitangi Tribunal claims, iwi have disputed these assumptions in relation to fisheries, tribal lands and rivers, and, in world-

leading legislation, the Whanganui River has been declared a legal person with its own rights. In this article, the authors discuss different ways in which the rights of rivers *as rivers* might be understood in scientific terms, investigating the ‘geomorphic rights’ of the Whanganui River, for instance, and how rivers as living communities of land, water, plants, animals and people might be understood through ‘river ethnography’, an approach that aligns a wide range of natural and social sciences with mātauranga taiao – ancestral knowledge of other living systems. They also consider how current policy discussions might be informed by such framings, so that river communities across Aotearoa New Zealand may be restored to a state of ora – life, health, abundance and prosperity.

**Keywords** water rights, whakapapa, Waitangi Tribunal, awa tupua, mātauranga taiao, commodification, reciprocity, Te Awa Tupua Act, the commons

In Aotearoa New Zealand, since first European settlement in the early 19th century differing assumptions about the relationships among land, sea and ancestors have collided and been contested.

Before the first Europeans arrived, accounts taught in the whare wānanga or ancestral schools of learning traced the origins of the cosmos to a primal surge of energy:

*Nā te kune te pupuke  
Nā te pupuke te hihiri  
Nā te hihiri te mahara  
Nā te mahara te hinengaro  
Nā te hinengaro te manako  
Ka hua te wānanga  
Ka noho i a rikoriko  
Ka puta ki waho ko te pō Nā te kore i ai  
Te kore te whiwhia  
Te kore te rawea  
Ko hau tupu, ko hau ora Ka noho i te atea  
Ka puta ki waho ko te rangi e tū nei  
Te ata rapa, te ata ka mahina  
Ka mahina te ata i hikurangi!*

From the source of growth the rising  
From rising the thought  
From rising thought the memory  
From memory the mind-heart  
From the mind-heart, desire  
Knowledge becomes conscious  
It dwells in dim light  
And Pō (darkness) emerges ...  
From nothingness came the first cause  
Unpossessed nothingness  
Unbound nothingness  
The hau of growth, the hau of life  
Stays in clear space  
And the sky emerges that stands here.  
The early dawn, the early day, the mid-day  
The blaze of day from the sky!  
(Te Kohuora of Rongoroa, in Taylor, 1855)

From that first surge of energy, thought, memory, the mind-heart, desire and knowledge emerged. As knowledge became conscious, the world took shape in te kore, nothingness, and te pō, darkness, through

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together.

aeons of ancestral space-time. When the winds of life and growth began to blow, the sky and the earth emerged. At first Ranginui the sky father and Papatūānuku the earth mother were one being, locked together, and as their children were born they lay cramped between them, living in darkness. Frustrated and constricted, they decided to separate their parents, and one after another they tried until at last Tāne, the ancestor of forests, lay on his back and pushed them apart. As Rangī wept for his wife, Papatūānuku sent up mists to greet him, and Rangī's tears became rivers and lakes, bringing life to the land (Te Rangikaheke, 1849).

In this cosmological account, water is a source of ora (well-being and abundance). The water cycle is placed at the heart of the

relationship between sky father and earth mother,<sup>1</sup> who eternally exchange mist and rain, giving life to their children – the ancestors of forests (Tāne-mahuta), wild food plants (Haumia-tiketike), cultivated food plants (Rongo-mā-tāne), the ocean and waterways (Tangaroa), winds (Tāwhiri-matea) and people (Tū-matauenga). When Tāwhiri-matea, enraged by his brothers' violence against their parents, attacks his brothers, only Tū-matauenga stands strong. Because of Tū's courage his descendants, human beings, inherit the mana (ancestral power) to harvest the offspring of his brothers – birds and forest foods, wild and cultivated plants, fish and other creatures. Because they are kinfolk, though, they must ask permission from Tū's brothers in the seasonal rituals of fishing, birding, agriculture and other forms of harvest. The aim is to keep these exchanges in balance, so that the life force of birds, fish, plants and people remains strong and healthy (mauri ora). If particular species became depleted (mauri noho), those who have the right to conduct such rituals placed a rāhui or ritual restriction on them until their life force had recovered.

In this way of living, kin groups moved across land, waterways and the coast in seasonal cycles, harvesting particular foods as they became abundant. Rights to take particular species were passed down genealogical lines and through relationships of alliance and friendship, tangling across the landscape in overlapping patterns of seasonal residence and harvest. Only by staying close to land and sea and lighting one's fires (ahi kā) could these relationships (which involved both rights and responsibilities to care for other life forms) be kept 'warm', instead of lapsing and going 'cold' (ahi mātaotao).

Since the first Europeans settled in Aotearoa, these kin-based ways of living have been radically disrupted. Most fundamentally, the introduction of ideas of land as 'property' owned by individuals or corporations, fragmented into measured, bounded areas by survey and

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mapping, in which almost all rights can be exchanged with strangers for a price, cut through the intricate, entangled strands of whakapapa (ancestral connection) that wove people, land, waterways and the sea together.

This way of understanding was first enacted by the first explorers and surveyors who were sent to Aotearoa to grid the land by latitude and longitude, quantify it and cut it into 'blocks', irrespective of mountains, rivers and valleys; abstract it and empty it of life and people. The notion of land as a commodity was authorised by the Old Land Claims Commission following the signing of the Treaty of Waitangi between Māori kin group leaders and the British Crown in 1840; enforced by acts of confiscation following the New Zealand Wars in the early 1860s and by the establishment in 1865 and operation of the Native Land Court; and enacted by the incremental assumption of the rights of the nation state to 'manage' all 'resources' in Aotearoa, most recently in the Resource Management Act 1991. These ideas about the rights of human beings, in particular 'civilised' people, to control land, waterways and the ocean were also underpinned by ancient cosmological framings, including the origin story recounted in the Book of Genesis, in which God creates Adam and Eve in his own image, telling them to be 'fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth' (King James Bible, Genesis 1:28).

If one examines the emergence of modern ideas about private property, their cosmological underpinnings are obvious. In *Two Treatises of Government*, for instance, John Locke devotes the first treatise to arguing about Adam's rights over land, sea and people, based on this biblical passage. While he does not dispute that God granted Adam and Eve dominion over fish, plants and animals (a unilateral, 'command and control' relationship), Locke contends that this did not extend to other human beings. Dominion over land and sea could not thus be claimed by absolute monarchs as Adam's inheritors, but rests in humankind in general. In Locke's framing, the origin of private property can be traced back to the

act of an individual investing his own labour in improving and cultivating the land and 'enclosing it from the common' (Locke, 1821).<sup>2</sup>

Likewise in his *Commentaries on the Laws of England*, William Blackstone, the influential 18th-century British jurist, cites the Genesis story:

In the beginning of the world, we are informed by holy writ, the all-bountiful Creator gave to man 'dominion over all the earth, and over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.' This is the only true and solid foundation of man's dominion over external things. (Blackstone, 1770, book 2, p.18)

At the same time, Blackstone expands on Locke's account of how private property and 'civil society' developed:

It was clear that the earth would not produce her fruits in sufficient quantities

without the assistance of tillage; but who would be at the pains of tilling it, if another might watch an opportunity to seize upon and enjoy the product of his industry, art, and labour?

Had not therefore a separate property in lands as well as movables been vested in some individuals, the world must have continued a forest, and men have been mere animals of prey, which, according to some philosophers, is the genuine state of nature ...

Necessity begat property; and, in order to insure that property, recourse was had to civil society, which brought along with it a long train of inseparable concomitants, – states, government, laws, punishments, and the public exercise of religious duties.

Ideas of ancestry are still significant here, tracing the origins of human 'dominion' over land, sea and other species back to God's gift to Adam and Eve, and 'sovereignty' to those who share God's attributes of judgement and wisdom (ibid., introduction, p.48).<sup>3</sup> Land, sea and other life forms are not seen as kinfolk, however. Rather, these are understood as the passive recipients of human labour, which 'improves' and encloses the land, converting it into private property which can be traded on a market.

At the same time, in Blackstone's formulation, waterways largely escaped this framing. Like light and air, water was in a 'state of nature' and part of 'the commons' (ibid., book 2, p.13).<sup>4</sup> 'For water is a movable, wandering thing, and must of necessity continue common by the law of nature; so that I can only have a temporary, transient, usufructuary, property therein' (ibid., p.18).<sup>5</sup> Nevertheless, according to Blackstone, if a man fouls a waterway shared with his neighbour, or diverts it so that this neighbour loses the use of that water, this is an injury to be redressed under the law. Interestingly, this restraint upon the use of fresh water was not given legal force when British law was introduced to Aotearoa New Zealand. Rather, the freedom of a person to use their own land (understood as private property) overrode Blackstone's framing of their responsibility to protect the rights of their

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neighbours to the use of fresh, free-flowing streams and rivers.<sup>6</sup>

This powerful emphasis on private property was also evident in the processes established to give Māori kin groups redress against the Crown for breaches of the Treaty of Waitangi. In the Treaty of Waitangi Act 1975, the Waitangi Tribunal was specifically prohibited from recommending the return or purchase of private land, or from inquiring into historical breaches of the Treaty relating to commercial fisheries (s6(4A) and (7)). Only Crown land, forests or other properties, as well as taxpayer funding, could be recommended as remedies for these breaches.

Nor was the Tribunal given powers to inquire into historical breaches of the Treaty until 1985, hot on the heels of the election of a Labour government. At the same time, however, the government embraced neo-liberal economics, including an extensive programme of privatising state properties, including forests, fisheries and lands. Almost immediately there was a series of clashes with Māori. In June 1985, for instance, Matiu Rata, then the minister of Māori affairs, wrote a letter to the Tribunal claiming that the Treaty rights of his Muriwhenua people had been breached by the Crown's presumption that their rights to their ancestral fisheries had been extinguished. A quota management system for Aotearoa New Zealand fisheries had been proposed which assumed that fish stocks in New Zealand's territorial waters were 'owned' by the Crown, quantifying the stocks of particular species and turning them into quotas to be traded on the market. In 1987 the Muriwhenua kin groups lodged a claim with the Waitangi Tribunal that succeeded in establishing that their rights to their ancestral fisheries, guaranteed under the Treaty, had never been legally extinguished (Waitangi Tribunal, 1988). As a result, a significant proportion of quotas in the new quota management system was awarded to Māori kin groups around the country.

While this Waitangi claim was fought on the grounds that the Crown's claim to 'own' New Zealand fisheries was unfounded, the remedy was still framed in terms of property rights, including both cash and quotas. These gave only partial

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compensation and did little to restore fish stocks to a state of ora. In the case of rivers, in keeping with Blackstone's dictum that water is part of the commons, however, the Crown did not claim to 'own' these waterways, but to govern them on behalf of the people of New Zealand. In the case of the Waikato River, the longest river in Aotearoa, when the government proposed to build a power station at Huntly adjacent to the Māori Queen's marae in the early 1970s (Whittle, 2013), this assumption was also contested. As Robert Mahuta, the Māori Queen's brother, declared in 1975, 'Noo taatou te awa. Noo te awa taatou. E kore e taea te wehe te iwi o Waikato me te awa. He taonga tuku iho naa ngaa tuupuna. E whakapono ana maatou ko taa maatou, he tiaki i taua taonga moo ngaa uri whakatupu' (The river belongs to us. We belong to the river. The Waikato people and the river cannot be divided. It is a treasure handed down from the ancestors. We believe it is our role to take care of this treasure for future generations) (Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010, preamble).

This idea of the river as a treasure, the lifeblood of the earth mother from whom the ariki (high chiefs) of Waikato-Tainui

descend, was powerfully expressed in a waiata composed by Tāwhiao, the second Māori King, farewelling his ancestral lands, confiscated (raupatu) by the Crown after the wars of the 1860s:

I look down on the valley of Waikato  
As though to hold it in the hollow of  
my hand ...

See how it bursts through

The full bosoms of Maungatautari  
and Mangakawa,

Hills of my inheritance:

The river of life, each curve

More beautiful than the last,

Across the smooth belly of Kirikiriroa,

Its gardens bursting with the fullness  
of good things,

Towards the meeting place at  
Ngāruawahia

There on the fertile mound I would  
rest my head

And look through the thighs of  
Taupiri.

There at the place of all creation

Let the King come forth.

(quoted in Muru-Lanning, 2010,  
p.45)

In the event, when the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act was passed in 2010 as partial reparation for the confiscations, it was agreed that authority over the river should be shared between Waikato-Tainui kin groups and the Crown. In the preamble to the act, the ancestral relationship between these kin groups and the river was legally recognised: 'To Waikato-Tainui, the Waikato River is a tupuna (ancestor) which has mana (prestige) and in turn represents the mana and mauri (life force) of the tribe. Respect for te mana o te awa (the spiritual authority, protective power and prestige of the Waikato River) is at the heart of the relationship between the tribe and their ancestral river.' The history of the disruption of this relationship was also recorded in the act's preamble, from the decision of Governor Grey to send an iron steamer down the river in 1862 to invade the Waikato and the confiscations that followed, to the Crown's assumption of



jurisdiction over the river and the harm done to the Waikato by ‘farming, coal mining, power generation schemes, the discharge of waste, and domestic and industrial abstraction’.

In this case, the remedies included a recognition of ‘te mana o te awa’ (the mana of the river), along with an agreement that the Crown would work with the Waikato-Tainui kin groups to restore their ‘mana whakahaere’ (governance, authority, jurisdiction) over the Waikato River and bring these groups together to protect te mana o te awa.

In successive Treaty claims against the Crown, iwi challenges against modern framings of relations among land, waterways and people have become increasingly fundamental. In the case of the Te Urewera Act 2014, for instance, the mana of Tūhoe’s ancestral lands in the former Te Urewera National Park, including waterways, was given a higher priority than the mana of people. In this act, Te Urewera is declared to be a legal entity, inalienable and independent. As Tamati Kruger, a leader of the Tūhoe people, has declared, ‘The Urewera owns itself’. This understanding is elaborated in the background section of the act:

Te Urewera is ancient and enduring, a fortress of nature, alive with history; its scenery is abundant with mystery, adventure, and remote beauty. Te Urewera is a place of spiritual value, with its own mana and mauri. Te Urewera has an identity in and of itself, inspiring people to commit to its care ...

Te Urewera expresses and gives meaning to Tūhoe culture, language, customs, and identity. There Tūhoe hold mana by ahikāroa [long having their fires alight on the land]; they are tangata whenua [land people] and kaitiaki [guardians] of Te Urewera. (Te Urewera Act 2014, s3)

In their guardianship of Te Urewera, Tūhoe kin groups have rejected ideas of human dominion over land and waterways as reflected in the doctrines of sovereignty, property rights and possessive individualism. Historically, although Tūhoe were promised considerable autonomy by the Crown, these promises

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were broken. Their territory is relatively remote, mountainous and forested, and a heartland for the preservation of tikanga (ancestral customs) and te reo, and their expressed ambition is to govern their own affairs in their own way on their own lands. Decisions about the future and uses of Te Urewera are made by consensus at hui on marae, rather than by voting, for instance.

This same kind of thinking is also evident in the Te Awa Tupua (Whanganui River Claims Settlement) Act 2017. Like Waikato-Tainui, the Whanganui iwi have kept their ‘fires alight’ by maintaining marae along the length of their ancestral river, the third longest in New Zealand. Like the Waikato, too, there is extensive non-Māori settlement on the river, with the city of Whanganui around the river mouth. In their Tribunal hearings, Whanganui kin groups have demonstrated their ongoing relationship with the Whanganui River, arguing that their life and well-being and that of the river are

inextricably entangled. As a Whanganui elder, Turama Thomas Hawira, lamented:

It was with huge sadness that we observed dead tuna [eels] and trout along the banks of our awa tupua [ancestral river]. The only thing that is in a state of growth is the algae and slime. Our river is stagnant and dying. The great river flows from the gathering of mountains to the sea. I am the river, the river is me. If I am the river and the river is me – then emphatically, I am dying.<sup>7</sup>

In their Treaty settlement, the Whanganui kin groups insisted on honouring the rights and life of the river. In the event, their relationship with the river was recognised in the act, which declared that ‘Te Awa Tupua [literally, a river from the ancestral realm] is a legal person and has all the rights, powers, duties, and liabilities of a legal person’ (s14(1)). In this act, two individuals, one appointed by the Crown and one by the Whanganui iwi, were established as Te Pou Tupua, the human face of Te Awa Tupua, authorised to act in the name of the river to protect its health and well-being, using funding dedicated for this purpose.

Like the Te Urewera Act, this act was world-leading in acknowledging the legal rights and responsibilities of a territory in the first instance, and a river in the second, in relation to those of people. The framing of it is still anthropocentric, however, since it defines the river as a legal person. In effect, this diminishes the mana of the Whanganui, since, in ancestral understandings, waterways emerge from the exchange of rain and mist between sky and earth, and are more ancient and powerful than people. At the same time, setting up Te Pou Tupua as its ‘human face’ limits the river’s agency, its independent power to act, by providing the river, like children or those who are incapacitated, with guardians who speak and act in its name. Likewise, framing the mana of the river as ‘rights’ fails to respect the principle of reciprocity (utu), which aims to generate ora through balanced exchange. When this balance fails, this leads to a state of mate (illness, failure, death), which is arguably

what has happened to waterways across Aotearoa New Zealand.

This limited legal framing has inspired attempts in New Zealand to explore what it might mean for a river (or a territory) to have its own life, in its own terms, with its own rights to health and well-being. In the case of the Whanganui River, for instance, a recent article arising from the Te Awaroa: Voice of the River project (Salmond, Tadaki and Gregory, 2014) has explored the rights of the river by juxtaposing 'geomorphic understandings of a river's agency' with 'ancestral Māori relations to the river based upon mutual co-dependence (reciprocity)'. The aim of this exercise is to bring together ancestral insights with the findings of contemporary geomorphological science to assist in restoring the health, well-being and life force of the Whanganui river, along with other waterways across the country.

In this article, the authors give a bleak view of the impact of utilitarian and 'command and control' framings of rivers as introduced to Aotearoa through colonial processes:

Notions of progress and improvement brought about the wholesale clearance of native vegetation, the drainage of wetlands, and the creation of large grassland areas for pastoral farming. Rivers were treated as drains or sewers, conduits for the disposal of waste with a seemingly limitless capacity for self cleansing and self renewal.

Impacts on rivers from mining, forestry, sawmilling, pastoral farming, flax milling and the operation of tanneries, dairy factories, and meat works were accentuated in the 20th century by the implementation of a 'command and control' management ethos.

Major hydroelectricity schemes, irrigation projects, and artificial stop banks (levees) transformed virtually all alluvial rivers in the country. Civil engineers were tasked with harnessing the powers of nature for human benefit, straightening, diverting, and culverting rivers to separate them from people. Catastrophic biodiversity losses ensued. Channels and harbours filled with sediment, pollutants and contaminants, and aquifers and waterways were

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depleted beyond sustainable limits. (Brierley et al., 2018, p.2)

Extractive approaches, one-way relationships and radical failures of reciprocity have resulted in fundamental ecological damage to many waterways across New Zealand. After exploring Māori ideas about relations between rivers and people, seven geomorphic 'rights' are described that a river *as a river* might enjoy in its quest for ora: a right to flowing water; a right to transport sediment; a right to be diverse; a right to adjust; a right to evolve; a right to operate at the catchment scale; and a right to be healthy (ibid., p.4), and these rights are applied to the Whanganui River in a case study.

In the 1960s, as the authors note, the headwaters of the Whanganui River were diverted by the Tongariro Power Scheme, without consultation with Whanganui kin groups and in spite of their protests:

The turbulent, glacial blue flows of the Whakapapa River were reduced to a trickle, transferring 97% of its water. An iwi representative, Gerrard Albert,

later described it: '... the head of our river has been cut off, and it no longer exists as a whole river ... and so we continue to bleed as a people, as it bleeds as a river.' (ibid.)

This scheme has had powerful impacts on the river, diminishing its rights to flowing water, to transport sediment, to operate at catchment scale and to be healthy. This river, with its deeply incised headwaters and confined valleys, has little room to move, and this has been further constrained by stopbanks, the drainage of wetlands and the clearance of riparian vegetation. Further downstream, the impacts of flooding have become increasingly severe, with residents in parts of Whanganui city having to be relocated.

In the article, the authors trace powerful resonances between the insights of mātauranga taiao (ancestral knowledge of the living world) and contemporary geomorphological science, and argue that by working together, these can enrich understandings of rivers as living systems with unique properties, and assist in devising better ways of handling the relations between people and waterways. What happens, however, if rivers are not regarded by Māori as ancestors, or if the relationships between kin groups and waterways have been radically disrupted?

In the case of another river studied by the Te Awaroa team, the Waimatā River on the east coast of the North Island, Māori occupation of its upper reaches largely ceased soon after European settlement. In order to understand the long-run life of the river, its geomorphological character, the arrival of Māori and European settlers, their uses of and impacts on the river system, and its ecological history were investigated. This approach, styled 'river ethnography', aims to bring together a wide range of disciplines (including history and the social sciences) with mātauranga taiao (ancestral knowledge of living systems) in an attempt to explore the Waimatā River as a living community through time, with its land, water, plants, animals and people. Drawing on ancestral Māori framings, the team focused on hearing 'the voice of the river', the behaviour and health of the river over time, as reflected in 'river stories'.

The inquiry began by exploring the relationship between land and the river. Like the Whanganui River, the channel of the Waimatā is confined and acts as a flume, transporting sediment and waste materials from source to the ocean. From its headwaters the river runs through highly erodible, steep country, through forests, pastoral farmland and suburbs, where it joins the Taruheru River to become the Tūrangānuī River, the shortest river in Aotearoa New Zealand, which runs through Gisborne city and the port (Cullum, Brierley and Marden, 2016).

Unlike the Whanganui and Waikato rivers, in ancestral Māori times the upper reaches of the Waimatā were largely used as a highway to the east coast and for access to forest resources, and were not permanently settled (Phillips and Salmond, 2017). During the early phase of European settlement the land around the river passed into European control and then ownership, and Māori occupation of the upper and mid catchment largely ceased (Gundry, 2017). No doubt for this reason, the Waimatā has not been subject to a specific Treaty claim, although several kin groups have submitted statements of their ancestral relationships with the river as part of the Treaty claim process. Occupation continued on the northern banks of the Tūrangānuī, however, where the Waimatā joins the Taruheru and flows into the sea. Both the local hapū, Ngāti Oneone, and their ancestral river experienced major impacts, including the development of the port along with other industrial uses; the relocation of their marae, Te Poho-o-Rāwiri; the blasting of Te Toka-ā-Taiaua, a sacred rock near the mouth of the river; and the loss of Te Wai o Hiharore, a place set aside in ancestral times so that inland kin groups could go fishing, declared an inalienable fishing reserve by the Native Land Court in 1875 (Phillips and Salmond, 2017, pp.4, 21).<sup>8</sup>

The introduction of pastoral farming by European settlers in the mid and upper reaches of the Waimatā catchment led to the clearance of hill and riparian vegetation, severe erosion, and major flooding in the lower reaches of the river and Gisborne city, so that major engineering works were carried out to divert the mouth of the river into a separate channel from the port.

The kin networks that bind people with other living systems resonate with the science of complex networks, key to understanding many 'wicked problems' of our time, in which the exchanges between people, land, rivers, plants, animals, the sea and the atmosphere are inextricably entangled and mutually implicated.

Nevertheless, the lower Waimatā has been heavily used for recreational purposes, with rowing, kayaking and more recently waka ama paddling as major activities. With the introduction of plantation forestry in the headwaters and mid reaches of the river in the late 1960s to deal with severe erosion, followed by recent clear-felling, the lower reaches of the river have been affected by aggradation and flooding, putting these activities at risk.

Finally, the team examined the ecological history of the river, and the impacts of these activities over time upon plants, animals and people, many of which have been devastating (Salmond, 2017).

The research process, which involved interviews with many individuals with different kinds of knowledge about the life of the river, from local residents to iwi members, foresters, farmers, scientists, local body engineers, and waka ama and kayak paddlers and rowers, was a way of empowering different voices to speak *from* as well as *about* the life of the river. Once the reports were written, meetings to share their findings with local communities were held. With no formal Treaty process to draw specific attention to the degradation of the river and the associated risks to local people, and a short-term utilitarian approach that largely ignores the downstream impacts of upstream activities, the Waimatā River had been relatively neglected. This is despite a close relationship between local residents and the lower reaches of the river, and the fact that it runs through Gisborne city and port. The public meetings were very well attended, including by those who had participated in the research process, and many of those present expressed a strong desire to play an active role in ensuring a healthy future for the river.

Here, too, an approach that brings together mātauranga taiao with contemporary sciences to understand rivers as unique, dynamic living systems that include plants, animals and people, and to seek balanced, life-enhancing exchanges among them, has the potential to lead to better outcomes for waterways, people and other life forms. This requires a shift from short-term, utilitarian, anthropocentric framings, because if rivers are more ancient and powerful than people, then all waterways have rights to flourish, not just those that are the focus of current human preoccupations.

Here one can begin to glimpse the strength of ecological perspectives based on ancestral Māori insights as well as contemporary sciences. In Aotearoa New Zealand, after perhaps 80 million years of independent evolution<sup>9</sup> – aeons of ancestral space-time – the first human beings arrived. Human occupation is brief, beginning about 800 years ago. As the saying goes, 'Toi tū te whenua, whatungarongaro te tangata' – the land stands, while people come and go; the land, with its rivers, mountains and forests, is indeed more ancient and powerful than



people. Just as the tears of Ranginui and the mists of Papatūānuku bring life to the world, Tangaroa, the ancestor of the sea, is also the ancestor of waterways and their creatures, confounding the division between the marine and river sciences, since water itself and so many life forms move between them. The kin networks that bind people with other living systems resonate with the science of complex networks, key to understanding many 'wicked problems' of our time, in which the exchanges between people, land, rivers, plants, animals, the sea and the atmosphere are inextricably entangled and mutually implicated. When waterways become ill and polluted, people also fall ill, with very high rates of water-borne diseases in parts of Aotearoa. As Whanganui people say, 'If the river is dying, so am I'. In such a situation, the fragmentation of disciplines and radical divisions between the 'natural' and 'social' sciences make little sense, since human activities have profound impacts on all the other life forms, including losses of biodiversity, the degradation of rivers and the ocean, and climate change; and these transformations in turn have profound implications for human communities.

At present, freshwater policy is under active debate in Aotearoa New Zealand. It will be fascinating to see how far the challenge to possessive individualism, property rights and short-term profits proceeds in practice. The framing that defines human interests in terms of 'fresh water' rather than waterways is already laden with utilitarian assumptions, since it is precisely the process of abstracting, enclosing, quantifying and pricing that leads to the commodification of 'the commons', whether this is applied to land, fish stocks or water. Likewise, talk of 'ecosystem services' is underpinned by the idea that springs, wetlands, streams and rivers were created to serve human purposes, denying the need for reciprocity and life-enhancing exchanges. The emphasis on waterways as living systems or communities, more ancient and powerful than people, on the other hand, resonates with mātauranga taiao and the findings of contemporary science, and is more likely to lead to healthy, sustainable relations between people, waterways and other life forms into the future.

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A move towards these kinds of perspectives should be possible in Aotearoa New Zealand. This will require some conceptual shifts, for instance in the Resource Management Act (RMA), which aims to promote the 'sustainable management' of 'resources' in Aotearoa by:

managing the use, development, and protection of natural and physical resources in such a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while –

- (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
- (b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
- (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment. (s5(1), (2))

Here the emphasis is still on the 'management' of 'resources' for human uses.

One key instrument in the RMA, the national policy statements, state objectives and policies for matters of national importance, such as coastlines, forests and water. These national policy statements

must be given effect in regional policy statements, and regional and district plans. In 2014 the National Policy Statement for Freshwater Management was released. In the 23 years since the RMA was first enacted, reliance on it to protect waterways had clearly failed. Assertions that the 'market' would drive positive change in the management of waterways proved misguided, and faith that technology would provide solutions had yet to deliver.

Predictably, the National Policy Statement for Freshwater Management provided direction to manage water quality and quantity, using techno-scientific rationales. Nevertheless, this national policy statement took a significant step by acknowledging the Treaty of Waitangi as the underlying foundation of Crown and Māori relationships, and recognising 'Te Mana o te Wai' in setting freshwater objectives. Te Mana o te Wai, inspired by precedents in the Waikato and Whanganui River acts, recognises a range of tāngata whenua values, including the kin relationship through whakapapa between iwi and hapū and the natural environment, including fresh water, and that as kaitiaki, iwi and hapū have a reciprocal obligation to ensure that freshwater ecosystems are healthy (including human health).

In an appendix to the national policy statement, Te Mana o te Wai is further elaborated by defining these relationships in terms of Te Hauora o te Wai – the health and mauri of the water; Te Hauora o te Tangata – the health and mauri of the people; and Te Hauora o te Taiao – the health and mauri of the environment. Te Hauora o te Wai is understood as the fundamental right of a river to flourish as a river, with clean water, plentiful flows and flourishing ecosystems. Once that is secured, people can derive health and sustenance from the waterway (Te Hauora o te Tangata), in ways that ensure Te Hauora o te Taiao, wider ecosystem and environmental health.

In the 2017 amendment of the policy statement, Te Mana o te Wai was further defined as 'the integrated and holistic well-being of a freshwater body' and as an integral part of freshwater management (Ministry for the Environment, 2017, p.7).<sup>10</sup> This was a major step towards placing particular waterways at the heart



of freshwater management approaches in Aotearoa. When the current coalition government comprising Labour, the Greens and New Zealand First was formed in late 2017, fresh water was identified as an issue of urgent public concern. As a result, the minister for the environment, David Parker, initiated an Essential Freshwater reform programme, which included a critical reappraisal of the National Policy Statement for Freshwater Management.

This review included the establishment of Kāhui Wai Māori – the Māori Freshwater Forum – who in their April 2019 report to the minister argued that Te Mana o te Wai offers a positive way forward in realising better outcomes for waterways in Aotearoa New Zealand. They framed the kaupapa (issue) in terms of mana atua–mana tangata–mana whenua, the relationships between the mana of creator ancestors, people and the land. They proposed that obligations are first ‘to the water, to protect its health and its mauri’; second, ‘providing essential human health needs such as drinking water’; and third, ‘for other consumption provided that such use does not adversely impact the mauri of freshwater’. The first obligation aligns with Te Hauora o te Wai, the second with Te Hauora o te Tangata, and the third with Te Hauora o te Taiao.

Although the relative order of particular hauora may vary in different formulations, the mauri and mana of the waterways always comes first. If the values articulated in Te Mana o te Wai can be effectively integrated with practical objectives for the care of waterways across Aotearoa New Zealand, there is a real chance that degraded waterways can be returned to a state of health, prosperity and abundance.

Although it is never explicitly stated, and indeed has been vehemently denied by successive governments, the underlying assumption is that a form of ownership rights to water exists in Aotearoa New Zealand. In contrast, ancestral Māori philosophies take it for granted that humans belong to Papatūānuku, earth mother, not the other way round, and that waterways arise from the living relationship between earth and sky. So, although recognition of Te Mana o te Wai in the National Policy Statement for Freshwater

Management is a significant step forward, incorporating a Māori approach and privileging the use of Māori knowledge, the policy statement is still linked with legislative instruments based upon ancient Western ideas about a divine gift to Adam and Eve of command and control over ‘nature’, which also underpin 19th-century definitions of ‘property rights’ and 20th-century ideas about ‘resource management’ and ‘ecosystem services’. It tries to reconcile two different ways of framing reality, with no guidance about how to negotiate the contradictions between them, or the significant power imbalances that have marginalised Māori understandings of relationships between people and waterways over time.

Indeed, conceptual framings are key to the future of waterways in Aotearoa and elsewhere. While notions of a ‘holistic’ ecological lens are often envisaged, they have proved exceptionally difficult to meaningfully capture, let alone apply (Capra, 1983). Fragmentation continues to reign supreme, satisfying vested interests while marginalising more generative and inclusive prospects. Working across worlds, on the other hand, enhances our capacity to envisage and create new ones. In Aotearoa, where lived realities already inform legislative, scientific and technical endeavours, there is an opportunity to recognise that each and every river is a living community with its own hauora, mauri and mana, where water, land, plants, animals and people are inextricably entangled, shaping each other across the generations in kin-based exchanges. At the same time, automated monitoring and measurement procedures, alongside ethnographic inquiries, present unprecedented capacities to tell the stories of each river, recorded through system-specific forms, rates and patterns of adjustment, and the study of long-run relationships and interactions of these life forms at the catchment scale (Brierley et al., 2013; Fryirs et al., 2019).

Such convergent place-based framings highlight the potential to generate insights into the emergent properties of each waterway, fostering a genuine prospect to live with rivers in ways that respect bonds of mutual interdependence, reciprocity and co-evolution. Exciting legislative and

scientific endeavours are increasingly in hand as we envisage encounters that weave across laws, narratives and data sets, between people, plants, animals and rivers, letting the rivers speak, restoring vitality to the lifeblood of the land.

- 1 For an elegant account of the fundamental role of the water cycle in making the planet habitable for people, plants and animals, see Mauser, 2012.
- 2 Book 2, chapter 5, section 32: ‘As much land as a man tills, plants, improves, cultivates, and can use the product of, so much is his property. He by his labour does, as it were, enclose it from the common.’
- 3 ‘In general, all mankind will agree that government should be reposed in such persons, in whom those qualities are most likely to be found, the perfection of which is among the attributes of Him who is emphatically styled the Supreme Being; the three grand requisites, I mean, of wisdom, of goodness, and of power: wisdom, to discern the real interest of the community; goodness, to endeavour always to pursue that real interest; and strength, or power, to carry this knowledge and intention into action.’
- 4 ‘But, after all, there are some few things, which, notwithstanding the general introduction and continuance of property, must still unavoidably remain in common; being such wherein nothing but an usufructuary property is capable of being had; and therefore they still belong to the first occupant, during the time he holds possession of them, and no longer. Such (among others) are the elements of light, air, and water.’
- 5 ‘The proprietor of each bank of a stream is the proprietor of half the land covered by the stream; but there is no property in the water. Every proprietor has an equal right to use the water which flows in the stream; and, consequently, no proprietor can have the right to use the water to the prejudice of any other proprietor.’
- 6 For a discussion of Blackstone’s dictum and the doctrine of ‘public trust’ in relation to the governance of waterways in Aotearoa, see Salmond, 2018.
- 7 Turama Thomas Hawira, brief of evidence for the Whanganui District Inquiry (do B28), 11.
- 8 Many of these wider impacts are documented in Coombes, 2000; Waitangi Tribunal, n.d.; Spedding, 2006.
- 9 Zealandia separated from Gondwanaland in the late Cretaceous period: Mortimer et al., 2017.
- 10 ‘Upholding Te Mana o te Wai acknowledges and protects the mauri of the water. This requires that in using water you must also provide for Te Hauora o te Taiao (the health of the environment), Te Hauora o te Wai (the health of the waterbody) and Te Hauora o te Tangata (the health of the people)’ (p.7).

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