

# “Giving rights to nature: a new institutional approach for overcoming social dilemmas?”

- Julia Talbot-Jones

This is very much a **WORKING** draft of a possible chapter for my thesis. I understand there is a **LOT** of work that needs to be done in terms of tightening, removing repeated concepts, reframing(?), improving consistency, fixing references etc etc, but hopefully it might provide those who are interested with a little more background on what I intend to present on as part of this Colloquia.

**Abstract:** Well designed institutional arrangements that incentivise or constrain human behaviour can reconcile the division of public and private interests often present in social dilemmas. Recommended approaches have traditionally been to allocate property right bundles for common-pool resources and public goods to central government or to alternatively vest them in the individual. More recently, the value of community governance and co-management have been recognised as effective alternatives. In 2014, New Zealand introduced a new institutional arrangement for the governance of the Whanganui River. Under *Te Ruruku Whakatupua* the Whanganui River (or Te Awa Tupua as it is now called) has its own independent “voice” and rights to ecosystem health and wellbeing. This means that in a Court of Law the Whanganui River will be recognised as a person, its rights to be represented by nominated “guardians”. Using the IAD Framework, this research analyses this institutional change and identifies three possible effects that may impact the allocation of rights to use and management for the Whanganui River. These include defining the river as an actor rather than a resource unit; transferring rights to entry, withdrawal, exclusion and alienation of the river from the legislature to the judiciary; and the emergence of a nested community governance institutional arrangement for management of the river. An exploration of the potential effectiveness of this change is also undertaken.

## 1. Introduction

The complexity of institutions has historically placed them uneasily within the formal boundaries of neo-classical economics. The interconnectedness and interaction of social, political, economic, and (often) ecologic factors of an institutional arrangement confounds the simplicity of mathematical models and compromises their clean

elegance. Furthermore, the dynamism of institutional change shifts the emphasis away from the traditional equilibrium analysis of mainstream economics and places it on the disequilibrium aspects of economic process (Veblen, 1898). Yet, institutions matter (Coase, 1937, 1960; North, 1990; Ostrom, 1990; Williamson, 2000). By minimising uncertainty they provide important structure for human interaction (North, 1990). Understanding how different bundles of rights, rules, and actors affect peoples' incentives and constraints can enable the correction of notorious market failures. Institutions are complex reflections of peoples' preferences that evolve into social norms and are formalised by the collection of laws, rules, and decision-making processes that guide social practice. Consisting of working rules-in-use that include both formal rules (laws and politically assigned rules) and informal rules (social norms) institutions provide mechanisms for the transcendence of social dilemmas (North, 1990; Ostrom, 1990).

Social dilemmas arise when choices made by individuals pursuing their own self-interest yield outcomes that are socially suboptimal (Ostrom, 2005). The influential work of Olson (1965) and Hardin (1968) on public goods and common-pool resources respectively showed that individuals who seek to optimise their own interests often do so at a social cost. This apparent paradox is of interest to economists. Why do the choices made by seemingly rational individuals in pursuit of their own self-interest so often lead to socially irrational outcomes?

For non-excludable public goods, such as a National Park or biodiversity provision, the incentive is for individuals in a group setting to free-ride off others (Olson, 1965). Because a user cannot be excluded from enjoying the benefits of a good or resource regardless of whether he or she contributes, there is little incentive for he or she to donate to its provision. The non-rivalrous nature of public goods also disincentivises their provision by the market (Ostrom and Ostrom, 1999). Because the use of the good by one person has no effect on another, the addition of an extra person to a public goods market has a marginal cost of \$0. Consequently, the underprovision of public goods is a well-understood market failure (Cornes, 1996).

Common-pool resources are faced with a different type of dilemma. Because they are rivalrous in nature and may (or may not) be excludable, common-pool resources, like fisheries or forests, have a tendency to be overused as users can receive all the benefits of accessing the resource whilst only paying a share of the costs (Ostrom, 1990, 2005). For instance, an irrigating farmer will receive all of the benefits from

taking water out of the system, however, will only pay for his (or her) private expenses and not the greater social costs. This means that as his (or her) benefits will exceed his (or her) costs, creating an incentive for continued extraction.<sup>1</sup>

So how can we constrain behaviour and align incentives to the benefit of socially optimal outcomes? Since the 1960's neo-classical economists have cautiously begun to embrace these questions. The realisation that the effects of institutions could be tested using economic tools (courtesy of Coase (1937,1960), North (1990), Ostrom (1990), and Williamson (1979, 1981) amongst others) has provided a catalyst for the robust development of institutional and economic empiricism and theory. Economists have accepted that the solution to market failures often lies in the creation or emergence of alternate institutional arrangements that incentivise public good provision or constrain common-pool resource use (Williamson, 2000).

This article explores the common approaches used to correct for social dilemmas for the environment and resource use through a property rights lens. It also introduces a new institutional approach recently adopted for the management of a river in New Zealand. In this case, New Zealand has stepped away from the traditional methods of Leviathan control, privatisation, or community governance, and has instead granted the river legal standing. This means that in a court of law the river is to be now treated as a person with representative guardians obliged to speak on behalf of the river itself. Using the Institutional Analysis and Development Framework this research evaluates this change, comparing it with the previous governance arrangement. The article closes with a normative evaluation of the possible costs and benefits this new institutional arrangement may have on public good provision.

## **2. Institutional responses to social dilemmas**

In recognising the limits of individually rational behaviour, self-interested individuals often create institutions with incentives or constraints designed to reconcile private and public interests. For the transcendence of social dilemmas, institutions are often

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<sup>1</sup> It should be noted that often goods and resources classified as public goods or common-pool resources will have elements of rivalry or excludability that lie outside the strict boundaries of their discrete classification. For instance, to take the example of a river again, the river may be a common-pool resource when water is extracted, imposing a quality of rivalry on the good; however, the water remaining in the system may also be classified as a public good, as the instream flow is neither excludable nor rivalrous. This means that sometimes the classification of goods must be considered along a continuum rather than being treated as discrete types of goods.

formed around the bundle of rights defining who can use a resource and by necessity must identify at least one other person who possesses an enforceable corresponding duty of noninterference (Hohfield, 1913; Cole and Ostrom, 2012). Schlager and Ostrom (1992) identified five distinct ownership rights-in-use often present in institutional arrangements governing common-pool resources. These include the right to enter a resource, to use the resource, to make decisions about the management of the resource, to exclude others, and to divest your rights to others. For public goods, the list could be much the same, except that by its very nature a public good is non-excludable, so the right to enter a resource is of no consequence. The way and to whom each of these rights are distributed can provide a point of differentiation between social dilemma institutions (Table One).

Table One: A comparison of institutional arrangements commonly used to transcend social dilemmas, based on ownership of each of the property rights-in-use identified by Schlager and Ostrom (1992).

	<b>Entry</b>	<b>Withdrawal</b>	<b>Management</b>	<b>Exclusion</b>	<b>Alienation</b>
Centralised governance	Government	Government	Government	Government	Government
Privatisation	Individual	Individual	Government (Individual)	Individual	Individual
Community governance	Community	Community	Community	Community	Community
Co-management	Government	Government	Community	Government	Government

To correct for the social dilemma inherent in common-pool resource and public good provision, a centralised governance arrangement has often been proffered as the “only” reliable remedy (Hardin, 1968; Ostrom, 2008). In order to avoid the seemingly inevitable “Tragedy of the Commons “(Hardin, 1968) or the hopelessness of collective action (Olson, 1965), the rights to use of a public good or common pool resource remain in the public domain and management rights lie with the state or government. In this case the ‘government’ is defined as the collection of elected public officials designated to make decisions at the executive and legislative levels of the Government system. Because the government can be considered to belong to the people in a democratically elected system, it can be argued that the entire bundle of rights are held in common under a centralised governance institution.

The benefits and costs of using a centralised governance arrangement for overcoming social dilemmas are extensively discussed in the literature (Hayek, 1945; Ostrom, 1990). For those that lament the inefficiencies of Leviathan control, the traditional alternative is the privatisation of public goods and common pool resources. Coase (1960) demonstrated that in the absence of transaction costs (the costs associated with the operation of an institution (Arrow, 1969)), private property right systems deliver efficient solutions to social dilemmas, irrespective of to whom they were initially endowed. Demsetz (1967) and Alchian (1965) expanded on this in the property rights literature, highlighting the value in having rights granted to the individual that are defined, defended, and divestible. These three characteristics most closely translate to the final three property rights in use defined by Schlager and Ostrom (1992) that property rights-in-use must include those of management, exclusion, and alienation. These types of rights provide the incentives for users to adopt a lower discount rate to calculate the value of the goods or resources into the future. By allowing individuals to make management decisions as well as withdraw resource units and transfer their rights, individuals are provided with the incentives to sustainably use and provide for a good or resource rather than look for immediate returns (Feder et al., 1988).

This logic has been applied to the management of several types of common-pool resources and environmental goods, including (but not limited to) fisheries, the atmosphere, and water<sup>2</sup>. Adopting Individual Transferable Quota (ITQ) systems for fisheries management, for instance, have been shown to not only slow the degeneration towards widespread fisheries collapse, but actually stop the decline (Costello et al., 2008). ITQ systems allocate a catch-share right to a fisher enabling them to catch a proportion of the year's total allowable catch for a particular species. By defining the rights and enabling fishers to defend and trade them, governments develop a simulated market. Similar approaches have been taken with water (Grafton et al., 2011) (allocating rights to extraction and then enabling them to be traded) and with pollutants into the atmosphere<sup>3</sup>.

However, private property right institutions are costly to introduce (Demsetz, 1967) and are necessarily incomplete (Coase, 1960). Consequently for environmental goods and resources private institutional arrangements often still require overarching

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<sup>2</sup> Although examples of the privatisation of public goods, such as health care and education, are common, the privatization of environmental public goods (like national parks) is less so.

<sup>3</sup> For successful examples of environmental markets for air pollution, see work on the global SO<sub>2</sub> markets (Schmalensee and Stavins, 2012).

Government funding, control, and regulation to ensure the goods don't suffer the effects of the self-interested user: under-provision and overuse. For this reason, 'privatisation' of common-pool resources and public goods could be seen in the light of an institutional arrangement under centralised governance with rights to entry, use, exclusion, and alienation being devolved to an individual, yet leaving the rights to management with the government. The idea of individual privatisation in its purest sense where both provision and production of goods are delivered by the market (Ostrom et al., 1961) could be argued to not apply to the management of environmental public goods and common-pool resources<sup>4</sup>.

For many years, centralised governance and privatisation were considered the only two property rights institutions available for overcoming social dilemmas. Almost like corner solutions, they dominated the policy sphere between which policy makers were forced to oscillate. Elinor Ostrom demonstrated through empirical and theoretical analysis that policy prescriptions could operate along a continuum. Her work laid the foundations for showing that collective action did not have to result in the dire outcomes predicted by Hardin (1968) and Olson (1960), and instead groups were often able to self-organise to sustainably use a common-pool resource (Ostrom, 1990).

Successful property rights regimes of common pool resources and public goods operated much like a private property regime except that the bundles of rights were allocated to a group or community rather than an individual. Community is meant to mean a group of people who interact directly, frequently, and in multi-faceted ways. As explained by Samuel Bowles and Herbert Gintis (200): "people who work together are usually communities in this sense, as are some neighbourhoods, groups of friends, professional and business networks, gangs, and sports leagues". For community governance systems that evolve organically the establishment of property rights-in-use for the community could be achieved without exogenous help from outside institutions or organisations. This localised level of management increases efficiency in the delivery of common pool resources and public goods as individuals within the group can be responsible for administering, monitoring, and enforcing the bundle of rights. In turn this reduces transaction costs and increases social capital,

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<sup>4</sup> Incomplete property rights has been the commonly given reason for the failure of many environmental markets, suggesting that even in the face of zero transaction costs, without the security of private property rights, markets for environmental goods will be inefficient.

considered to be the presence of community cohesion founded on norms, trust, communication, and connectedness in networks and groups (Gutierrez et al., 2011).

In situations where community governance is not present or inefficient centralised governance systems exist, co-management is increasingly being adopted as an institutional arrangement for the management of public goods and common-pool resources. By opening up the management of public goods and common-pool resources to societal participation and partnership formation, the effectiveness of governance has been shown to increase (Ackerman, 2004). Where examples of co-management are evident, the motivation for implementation stems from multiple sources. In developing countries, pressures include “increasing fiscal deficits, aid from international donors that is tied to some involvement of local actors, pressures from communities and indigenous groups for greater control over their lands, and some evidence that local actors have the capacity to protect and use...resources sustainably and at lower costs than government agencies” (Agrawal, 2007). In more developed countries, pressures often come from a need to enhance relationships with indigenous groups (Castro and Nielson, 2001; Turner et al., 2013), or as a byproduct of decentralisation (Berkes, 2009).

In New Zealand, co-governance arrangements are well established as a tool to improve resource management outcomes<sup>5</sup> (Moller et al., 2004; Taiepa et al., 1997). Under these arrangements rights to entry, to use, to exclusion, and divestment of the good or resource may remain with the government; however, the rights to management are granted to the local community. For instance, partnerships are often entered into between the Crown and local iwi (indigenous tribes) in order to incorporate social and cultural norms into decision-making processes (Stephenson et al., 2013; Tipa, 2003). Co-management arrangements also aim to improve the efficiency and effectiveness of institutional arrangements through the acknowledgement of context and social-ecological conditions (Carlsson and Berkes, 2005; Plummer and Fitzgibbon, 2004).

In many cases this facilitation of social capital is as important to the success of an institutional arrangement as the distribution of property rights themselves. Although the allocation of rights can influence the effectiveness and efficiency of a social dilemma institution, it does not determine its success. Social dilemma institutions are

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<sup>5</sup> Similar types of agreements can be found in Canada, the United States, Japan, India, and Australia (Berkes, 2009).

also dependent on this provision of social capital, the presence of strong leadership, of effective sanctioning mechanisms, and low transaction costs (Gutierrez et al., 2012). For community governance institutions, Elinor Ostrom (1990) identified eight key design principles important for the development of long-lasting systems<sup>6</sup>. These include: well-defined boundaries; the incorporation of local norms and conditions into the institutional arrangement; the ability for individuals to be involved in the rule-making process; the presence of active monitoring; graduated sanctions; and, conflict resolution mechanisms; limited interference from exogenous agencies; and finally, the presence of nested systems. These are well supported empirically (Cox et al., 2010).

Laboratory and field experiments have also shown the influence of different variables on enhancing the success of institutional arrangements<sup>7</sup>. As surveyed by Harrison and List (2013) these include the introduction of punishment and reward mechanisms (for example Fehr and Gächter, 2000, 2002; Noussair and Tucker, 2005; Sefton et al., 2007; Sutter et al., 2010); the presence of third-party punishment (for example Fehr and Fischbacher, 2004; Carpenter and Matthews, 2012); expressions of disapproval by individuals (for example Gächter and Fehr, 1999; Masclet et al., 2003; Rege and Telle, 2004); the threat of expelling group members (for example Cinyabuguma et al., 2005); the establishment of leaders (for example Guth et al., 2007; Levati et al., 2007); assortative matching (for example Gächter and Thoni, 2005); and communication amongst players (for example Issac and Walker, 1988; Bochet et al., 2006). In addition, other factors such as group size and heterogeneity within and between user groups are also important (Agrawal, 2002). For instance, in cases where the number of group members is quite small and members are largely homogenous, individuals are more likely to successfully organize themselves to manage a common property resource efficiently (Olson, 1965; Ostrom, 1990)<sup>8</sup>. Consequently, the success of an efficient and effective institutional arrangement for transcending social dilemmas is likely to be dependent on a large number of interacting variables in addition to identifying suitable property right holders.

### ***A new (old) approach to management?***

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<sup>6</sup> These were expanded to eleven principles by Michael Cox and his colleagues in 2010.

<sup>7</sup> In this survey success was measured by an increase in voluntary contributions by players participating in a public goods game.

<sup>8</sup> Ostrom later notes that group size and heterogeneity are not variables with an entirely uniform effect on the likelihood of organising and sustaining self-governing enterprises (2005). See Poteete and Ostrom (2004) for a comprehensive discussion of the effects of group size and heterogeneity on collective action.



It should be noted, that underlying each chosen distribution of rights lays the metaconstitutional concept of ownership. The discussion above has been based upon the western or Judeo-Christian view of ownership for which a man:nature dichotomy exists. As White (1967) comments “Christianity is the most anthropocentric religion the world has seen. [It] not only established a dualism of man and nature but...by destroying pagan animism, Christianity made it possible to exploit nature in a mood of indifference to the feelings of natural objects” (Roberts et al, 1995). Glacken (1967) suggests that this attitude persists and lies at the heart of the Western conservation paradigm (Roberts et al., 1995). In contrast the worldview of many indigenous cultures considers humans to be a part of nature, belonging to all other things, animate and inanimate<sup>9</sup> (Turner et al., 2013). In traditional societies this enabled the identification of usufruct rights, however, the alienation of land or other environmental resources was an impossible concept<sup>10</sup>.

In 1972 Christopher Stone suggested incorporating this general concept into the western legal structure, creating a new institutional arrangement for the governance of environmental public goods and common-pool resources. In his seminal piece “[s]hould trees have standing?-toward legal rights for natural objects”, Stone suggested that natural objects be given legal rights similar to those of other inanimate right-holders such as trusts, corporations, joint ventures, and municipalities. By his depiction this would mean that nature can institute legal actions *at its behest*; that in determining the granting of legal relief, the court must take *injury to it* into account; and, finally, that relief must run to the *benefit of it* (Stone, 1972). In other words a third party would no longer need to be involved in legal proceedings because injury to the natural object itself will become sufficient for the delivery of due compensation.

By his own take, Stone was proposing “the unthinkable” – and perhaps for obvious reasons his work stimulated debate, yet failed to spur any transformation (Stone, 1996). Although the US Supreme Court took up the notion of nature having rights initially little further action followed<sup>11</sup>. For many, Stone’s proposal proved too radical and perhaps too challenging to existing property rights and economic institutions (Stone, 2012). Yet, in 2014 New Zealand granted the Whanganui River legal personhood (or standing), its rights to ‘health and wellbeing’ to be enforced through

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<sup>9</sup> This is acknowledged to be a broad generalisation.

<sup>10</sup> Indigenous societies often use a community governance property rights arrangement for the management of their goods and resources (Kahui and Richards, 2014)

<sup>11</sup> See *Sierra Club v. Morton*, 405 US 727 (1972).

courts and responsibility for its protection to be held by appointed guardians. This new institutional structure follows the 2008 Ecuador Constitution and the 2011 Bolivian Mother Earth Law, both of which granted nature legal “rights to exist” (Arsel, 2012).

This new institutional arrangement confronts the dualistic western concept of “ownership” and incorporates the Maori (indigenous people of New Zealand) worldview into western law. It also challenges the traditional institutional arrangements used to correct for social dilemmas – stepping beyond community governance and co-management into largely uncharted territory. It introduces a new actor to which the rights are allocated, changing the bearer of both the use and management rights for the river. It also has the potential to effect transaction costs, the robustness of social capital, and the sanctioning mechanisms-in-use. Understanding the structure of this new institutional arrangement will be useful for those interested in alternate institutional structures for aligning public and private interests.

### 3. **Methodology**

The Institutional Analysis and Development (IAD) Framework is a useful starting point for exploring different institutional arrangements and their effects (Ostrom, 2005). By identifying the major structural variables of an institution, the Framework provides a methodological construct for analysing institutions and answering important policy questions. In the Framework, the rules-in-use (both formal and informal), community attributes, and biophysical conditions are all treated as exogenous variables that impact the action situation<sup>12</sup>. The action situation embodies the actors involved in the process of interest and includes the positions they hold, the set of allowable actions and their resulting outcomes, the level each participant has over choice, their available information, and the incentives and deterrents that are assigned to actions and outcomes within the action situation (McGinnis, 2011). Finally, the IAD Framework considers the resulting patterns of interactions and outcomes and works to evaluate these outcomes.

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<sup>12</sup> Later work has acknowledged the potential endogeneity of these contextual effects within the institutional arrangement (McGinnis, 2010; 2011)

These action situations can be explored across multiple levels of governance, bringing polycentric analysis into the Framework. Polycentricity, tentatively described by Aligica (2014) as "...a social system of many decision centres having limited and autonomous prerogatives and operating under an overarching set of rules...", enables the vertical integration of rules and actors through the differentiation of separate levels of analysis. The operational level considers the concrete actions taken by actors from day-to-day, governed by the rules and constraints of the immediate group. They can be managed by rules and actors identified at the collective level, which in turn can be guided by choices made at the constitutional level (McGinnis, 2011). Sometimes, all of these decisions and choices are guided by a worldview held at the metaconstitutional level (Ostrom, 1999).

The IAD Framework works within existing economic constructs by identifying the base unit as the "rational" individual whose goal is to maximise their utility. However, rather than assuming that each individual is guided purely by self-interest, the IAD Framework assumes that individuals are boundedly rational and rely on a process of satisficing in order to make their choices (Simon, 1956). This differs from the neoclassical approach by assuming that each individual is constrained by cognitive process as well as incomplete information causing them to select the first option that meets a given need rather than the "optimal" solution. Ostrom's later work also moves towards incorporating heterogeneity of preference as well as acknowledging the importance of other-regarding preferences (Aligica, 2014). The inclusion of other-regarding preferences in analysis suggests that although an individual may be making choices to maximise their net benefit, their utility may not be optimised solely through monetary gain. Instead, an individual's decisions may be guided through the benefits received from the "warm-glow" of giving or the benefits perceived of engaging in trust and reciprocity (Ostrom, 1998; 2010). By acknowledging core economic assumptions, yet relaxing them where appropriate, the IAD Framework provides a useful intersection for moving between economics and institutional analysis.

This research used a series of 18 in-depth semi-guided interviews to explore the institutional governance arrangement for the Whanganui River. Subjects were initially identified using secondary sources and then by snowball sampling (Merriam, 2009). Those interviewed were representative of many of the actors involved in governing the Whanganui River and in developing the new institutional arrangement. Where appropriate, interview data was triangulated with secondary sources.

#### 4. Case study: Te Awa Tupua (The Whanganui River), New Zealand

##### **Background**

For 290km the Whanganui River winds itself through the centre of New Zealand's North Island. Starting at the base of Mt Tongariro and ending on the lower west coast, its wide channels weave through precipitous terrain lending it to being titled New Zealand's longest navigable river. The catchment covers approximately 7 100 square kilometres of predominantly steep hill country, as well as alpine areas, indigenous forest, scrub, farmland, and exotic forestry (Horizons Regional Council, 2003). The catchment stretches over four local government jurisdictions and encompasses several small towns and settlements of which most are located beside the Whanganui River or its tributaries. The largest of these is the town of Wanganui, which has a population of almost 43 000 (Statistics New Zealand, 2013). In addition, the catchment nests within parts of two National Parks, which provide habitat for several endangered species.

The Whanganui River has always commanded attention. From an economic perspective, it has been of key strategic importance as a major 'highway' linking the coast to the interior. For nearly a millennium before European settlement, the river supported a population of (at times) over two thousand Maori and many more would travel up and down its length, trading goods and travelling across country<sup>13</sup> (Young, 1998). More than 140 *pa* (settlements) were located along the river, many of which were large and permanent *kainga* (villages) (Waitangi Tribunal, 1999).

The arrival of Europeans in the early 19<sup>th</sup> century heralded a new chapter. The economic potential of the Whanganui River was quickly recognised – initially for its use as a transport route and later as one of New Zealand's first profitable tourist attractions (Downes, 1993). The river became known as “the Rhine of the Pacific” bringing people from all over New Zealand and beyond to experience the remote beauty of the Whanganui River. From 1882 gravel from the bed was extracted and in the 1960's the river dammed for hydropower (Waitangi Tribunal, 1999). The

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<sup>13</sup> Prior to European settlement, the total Maori population in Aotearoa-New Zealand was estimated to be around 100 000. By 1843 it had already fallen to between 50 000 and 80 000. Today around 15 percent of New Zealand's population (around 600 000) identify as Maori (2013 Census).

diverted headwaters of the Whanganui now supply around five percent of New Zealand's electricity.

But the river was and is much more than just an economic asset. To many, the river is valued for its natural, scenic, and recreational values and the declining water quality as a result of erosion and low flow is of constant concern to scientists and users of the River (Waitangi Tribunal, 1999). To the people of the river, Te Atihaunui-a-Paparangi, the river remains central to their lives, their source of food, their single highway, their spiritual mentor (Waitangi Tribunal, 1999). Isolated *marae* (community meeting places) that can only be accessed by river transport are still found in the far upper reaches. Annual festivals in celebration of the river dominate the cultural calendar. Everyday social and cultural norms are guided by Whanganui Iwi's worldview, which is structured around *kaitiakitanga* and embraces their metaphysical connection with the river. This worldview prevails in Iwi's use and interaction with the river, yet its application is largely relegated to the operational choice level, apparent only through the expression of informal rules amongst Iwi.

From a legislative perspective this clash of epistemological worldviews creates challenges for the development of effective institutions. In addition, the heterogeneous uses, values, and beliefs of people using the river have created complexity for the successful governance of the river system. The new institutional arrangement described below is the most recent attempt by the Crown and Iwi to overcome these challenges and reconcile the two property right concepts with a view to improving governance of the Whanganui River.

### ***Creating rights for nature***

On 5 August 2014 the signing of *Te Ruruku Whakatupua Te Mana o te Awa Tupua* created a new legal framework for the management of *Te Awa Tupua*, the Whanganui River system in its entirety. The settlement between the Crown and Atihaunui spelled the end of long-standing claims about ownership of the Whanganui River. Legislative process has historically restricted Iwi's involvement in governance of the River regarding them as stakeholders and failing to acknowledge the interconnectedness of Iwi and the river. For Iwi, this lack of use and management rights restricted their ability to look after the river according to their *tikanga*. As described by Nico Tangaroa (deceased): "The river and the land and its people are inseparable. And so if one is affected the other is affected also. The river is the

heartbeat, the pulse of our people...[If the river] dies, we die as a people. Ka mate te Awa, ka mate tatou te Iwi”<sup>14</sup> (Kennedy, 2013). Consequently, the intention of the new legal framework is to uphold the mana of Te Awa Tupua and to recognize the intrinsic ties that bind Te Awa Tupua and its people to each other. The settlement was an historic occasion for the people of Wanganui, New Zealand as a whole, and for those interested in identifying efficient and effective institutional arrangements for the transcendence of social dilemmas.

### ***The Deed of Settlement - Ruruku Whakatupua Te Mana o te Iwi o Whanganui***

Because *Te Ruruku Whakatupua Te Mana o te Awa Tupua* is part of the settlement addressing Whanganui iwi’s claims to the River, it sits under the umbrella of *Ruruku Whakatupua Te Mana o te Iwi o Whanganui*, the settlement document. This thirteen part document acknowledges that Te Awa Tupua is an indivisible and living whole, comprising the Whanganui River from the mountains, to the sea, incorporating its tributaries and all its physical and metaphysical elements – “*E rere kau mai te Awanui, mai i te Kahui Maunga ki Tangaroa*” (s3.1). The settlement also gives “an apology in respect of the Whanganui River to the iwi and hapu (sub-tribes) of Whanganui, their *tupuna* (family group) and their uri” (s3.20) for past grievances caused by the Crown. These largely relate to past breaches of the Treaty of Waitangi that have resulted in the failure of the Crown to respect Whanganui Iwi’s relationship with Te Awa Tupua.

The Treaty of Waitangi was signed by over 500 Maori chiefs and representatives of the British Crown on 6 February 1840 in order to formalise working rules for the recently settled Aotearoa-New Zealand<sup>15</sup>. For the British, the Treaty of Waitangi was penned to eliminate the possibility of a Maori-led state, and the English version of the Treaty ceded Maori *sovereignty* or ‘ownership’ to the Crown in return for protection over those “properties” that they did not wish to sell. However, because Maori did not have the Roman Law concept of ‘ownership’ in their worldview, Article I of the Maori translation cedes ‘*Kawanatanga*’ to the British, a term coined by missionaries and first used in early biblical translations to represent the concept of governance (Sunde, 2003). Furthermore, Article II of the Maori version translates literally as: the Queen of England consents to Maori “..the full chieftainship (*rangatiratanga*) of their

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<sup>14</sup> This view was echoed by all those interviewed.

<sup>15</sup> It should be noted that 500 Maori chiefs signed the Maori version of the Treaty of Waitangi, whereas only thirty-nine signed the English text.

lands, their villages, and all their possessions...”. In other words, the treaty was presented to Maori chiefs in such a way that it appeared as if the relationship of the British Crown to Maori was one of a ‘protectorate’ between two sovereign nations, whilst the British version clearly implied annexation and sovereignty in the western sense. The inconsistent translation of the Treaty has therefore been the source of contention and conflict for Iwi and the Crown with regards to governance of the Whanganui River since 1840. The essence of *Ruruku Whakatupua Te Mana o te Iwi o Whanganui* seeks to atone for those past wrongs and begin the process of healing. As said in s3.25:

“...this settlement marks the beginning of a renewed and enduring relationship between Whanganui Iwi and the Crown that has Te Awa Tupua at its centre and is based on mutual trust and cooperation, good faith and respect...” (s3.25)

The settlement also provides for authorised customary activities (Part Seven), such as fishery activities and customary practices, and gives cultural (Part Eight) and financial redress (Part Nine). Cultural redress includes the recognition of the importance of ripo (rapids) to Whanganui Iwi, the alteration of existing geographic names that are considered by Whanganui Iwi to be incorrect, and the development of a “social services project” which aims to improve social services in the Whanganui region through enhancing delivery by government agencies.

Financial redress amounts to \$80 million with an additional \$1 million allocated for transitional and implementation purposes related to the establishment of the River framework. A further \$30 million contestable fund will be established for initiatives relating to Te Awa Tupua under Part 7 of the River framework. This redress is to be managed by a trust called Nga Tangata Tiaki o Whanganui, which will replace the three existing entities that manage various assets and liability issues of Whanganui Iwi (Part Ten)<sup>16</sup>. Finally, in order to ensure that a relationship between the Crown and Whanganui Iwi remains strong, an express commitment to work together to implement the settlement is also given (Part 11).

### ***The legal framework – Te Ruruku Whakatupua Te Mana o te Awa Tupua***

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<sup>16</sup> These existing entities are the Whanganui River Maori Trust Board, the Pakaitore Trust, and Te Whiringa Muka Trust

The Whanganui River agreement introduces a new institutional arrangement for the governance of a public good<sup>17</sup>. By according Te Awa Tupua full legal personality, *Te Ruruku Whakaturua Te Mana o te Awa Tupua*, enables Te Awa Tupua to be a “legal person” (s2.2) with their same “rights, powers, duties and liabilities” (s2.3).

In the same way that a child requires representation in a court of law, the rights, powers, and duties of Te Awa Tupua are to be exercised and performed by two appointed guardians (Te Pou Tupua). Te Pou Tupua comprises a singular role exercised jointly by two persons (symbolic of the Treaty partnership) – one nominated by the Crown and the other by Whanganui Iwi. Te Pou Tupua is expected to act in the interests of Te Awa Tupua and consistently with four intrinsic values which are considered to represent the essence of Te Awa Tupua. These values, known as Tupua te Kawa, are:

1. *Ko te Awa te mātāpuna o te ora* - the River is the source of spiritual and physical sustenance
2. *E rere kau mai te Awa nui mai te Kahui Maunga ki Tangaroa* – the great River flows from the mountains to the sea
3. *Ko au te Awa ko te Awa ko au* – I am the River and the River is me
4. *Ngā manga iti, ngā manga nui e honohono kau ana, ka tupu hei Awa Tupua* – the small and the large streams that flow into one another and form one River

These values are to be considered by decision-makers at each level of governance. At the constitutional level, decision-makers exercising functions under 25 relevant statutes must ‘recognise and provide for’ the status of Te Awa Tupua as well as the intrinsic values. Local authorities at the collective-choice level must also consider Te Awa Tupua and its status in their management of the River, as must those actors participating at the operational level.

As the human face of the River, Te Pou Tupua is required to also have relationships and form individual agreements with government agencies at each level of governance<sup>18</sup>. They will also exercise landowner functions and administer the \$30

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<sup>17</sup> Other settlements in New Zealand have resulted in a range of institutional arrangements being created and adopted for the management of freshwater resources. To varying degrees many recognise Maori conceptions of the environment, for instance, the Waikato River settlement (2012) recognizes that to Waikato-Tainui

<sup>18</sup> At the constitutional level, Te Pou Tupua will enter into a relationship document with the Commission of Crown Lands, the Director-General of Conservation, and the Chief Executive of the Ministry of



million contestable fund (Te Koretete of Te Awa Tupua) that will be available for initiatives affecting the health and wellbeing of Te Awa Tupua. Te Pou Tupua is to be supported by an advisory group, Te Karawao, which will advise and support Te Pou Tupua in the exercise of its functions when necessary. When required by Te Pou Tupua, this group will convene and is to consist of one person appointed by Nga Tangata Tiaki o Whanganui, one by other iwi with interests in the Whanganui River, and one person appointed by the relevant local authorities. Other people can also be invited to advise when necessary. \$200 000 is to be paid annually by the Crown to Te Pou Tupua for twenty years as a contribution to the costs associated with the exercise of Te Pou Tupua's functions.

In order to bring together persons with interests in the Whanganui River together, a strategy group will be established (Te Kopuka na Te Awa Tupua). Their role is to identify issues relating to the environmental, social, cultural, and economic health and wellbeing of Te Awa Tupua, to establish a Te Awa Tupua strategy to address those issues, and to provide recommended actions to address those issues. This strategy document will be called Te Heke Ngahuru ki Te Awa Tupua and is to be reviewed every ten years. Again it must be considered by all government agencies across all levels as they make decisions that may impact Te Awa Tupua.

Te Kopuka na Te Awa Tupua is to have up to 17 members that represent persons and organisations with interests in the Whanganui River, including iwi, local and central government, commercial and recreational users and environmental groups. The membership is to be as follows:

- one member appointed by Nga Tangata Tiaki o Whanganui;
- up to five members appointed by iwi with interests in the Whanganui River;
- up to four members appointed by the relevant local authorities;
- one member appointed by Fish and Game New Zealand<sup>19</sup>;
- one member appointed by the Director-General of Conservation;
- one member appointed by Genesis Energy Limited<sup>20</sup>;

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Business Innovation and Employment. They are also required to engage with relevant local authorities – these include Horizons Regional Council, Wanganui District Council, Stratford District Council, and Ruapehu District Council.

<sup>19</sup> A 'user pays, user says' non-profit organization focused on managing, maintaining, and enhancing sports fish and game birds and their habitats.

<sup>20</sup> State owned hydropower enterprise operating the Tongariro Power Development at the headwaters of the Whanganui River.

- one member appointed to represent environmental and conservation interests;
- one member appointed to represent tourism interests;
- one member appointed to represent recreational interests; and
- one member appointed to represent the primary sector.<sup>21</sup>

Capacity in terms of administrative and technical support for establishing Te Kopuka and developing Te Heke Ngahuru is to be provided for by Horizons Regional Council. The Crown will provide Horizons with a further \$430 000 to aid this process. In the long-term, Te Kopuka will be responsible for the monitoring the implementation of Te Heke Ngahuru and reviewing its progress and success. It is to provide a forum for discussion of issues relating to the health and wellbeing of Te Awa Tupua and to exercise any function that may be delegated to it by a local authority.

By affording Te Awa Tupua “legal standing” and an “independent voice” the river and its tributaries are now considered “a living entity in its own right...incapable of being ‘owned’ in an absolute sense” (Maori Trust Board, 2012). Ownership of parts of the riverbed is to be vested away from the Crown and placed in the name of the river itself, providing for the “protection and promotion of the health and wellbeing of Te Awa Tupua” (s1.3). In undertaking this action, private property is to remain unaffected as are most existing rights, structures, and consents. The vesting of the riverbed does not create proprietary interests in water.

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<sup>21</sup> Each appointing entity is an “appointer”.

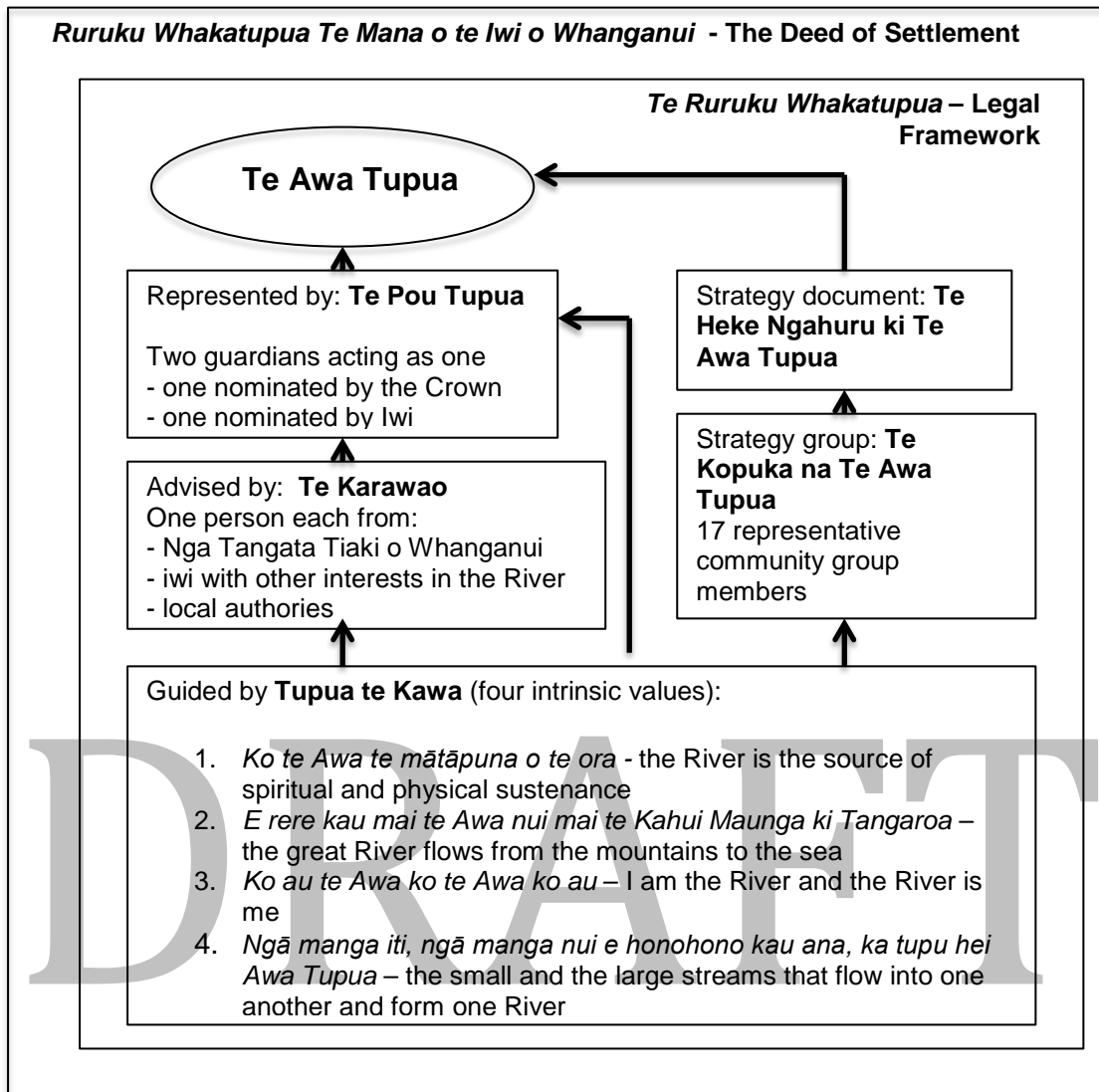


Figure One: The relationship between different actors and rules created as part of Ruruku Whakatupua Te Mana o te Iwi o Whanganui.

### **Governance effects of Te Ruruku Whakatupua**

The management of environmental public goods and common-pool resources in New Zealand has been predominately administered through polycentric governance mechanisms. Decisions are made across three distinct levels of governance, which are connected through vertical linkages and feedback loops. Although, New Zealand largely has a parliamentary democracy controlled through a central Government, it has devolved much of the responsibility for public goods and common-pool resources to local authorities in a quest for increased efficiency and local governments make many of the collective-choice or policy decisions whilst guided by

constitutional legislation. This has resulted in the development and adoption of multiple institutional arrangements for the management of public goods and common-pool resources, including privatization and co-governance arrangements. Where alternative approaches have been adopted at the collective-choice level, the institutional arrangements occasionally try and merge the two dominant metaconstitutional worldviews into traditional institutional property rights frameworks (Figure Two).

For water, property rights-in-use are held in a central governance institutional arrangement setting consistent with the western view of ownership and following English common law. When required, consents to use are granted by local governments to applicants on a 'first-come, first served' basis. A National Policy Statement for Freshwater was released in 2014 to provide a bottom line for local governments for water quality levels. Under these minimum standards, the water quality of the Whanganui River is acceptable, however, by international standards, quality is poor, with high sediment levels being the principle concern. Improving governance approaches to management are therefore of some importance for the scientific community.

Despite being receptive to different institutional arrangements, the granting of rights to nature is a step beyond existing institutions established for the management of public goods and common-pool resources elsewhere in New Zealand. Some formal rules-in-use acknowledge the intrinsic rights of nature and recognize elements of Maori worldview, however, these operate within the boundaries of a traditional western view of ownership and their success at incorporating the important elements of Maori tikanga has been mixed (Coates, 2009; Ruru, 2013). Te Ruruku Whakatupua hopes to have greater success through incorporating Whanganui Iwi's worldview in its entirety into western law.

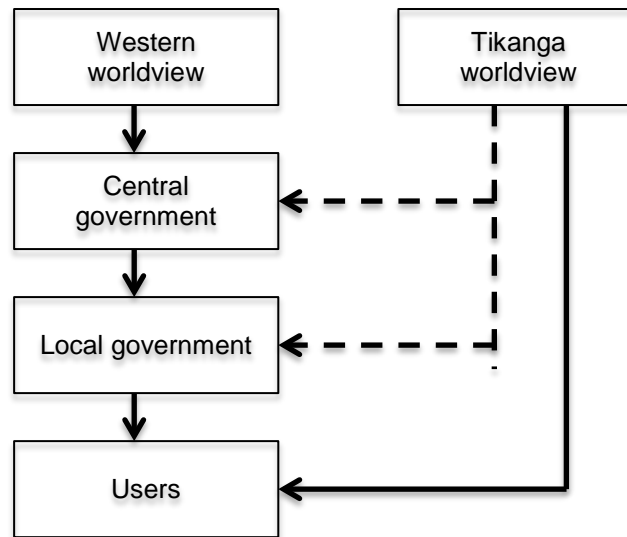


Figure Two: A simplified view of New Zealand's governance arrangement for freshwater.

The arrangement is largely built upon the western constructs of ownership, however, elements of tikanga principles are acknowledged by legislation at both central and local government levels. Tikanga is actively in use by Iwi.

### *Operational level*

Although New Zealand largely takes a multi-tier approach to governance, with many rules established at the constitutional level that then trickle down, the drive for Te Ruruku Whakatupua came from Whanganui Iwi at the operational level. Whanganui Iwi's relationship with Te Awa Tupua is built around their tikanga and based on their history and beliefs. For the Iwi of Whanganui their tikanga is their metaconstitutional worldview that should influence all levels of decision-making and governance through working rules; however, remains largely in operation only at the operational level.

For Iwi, the River is an ancestor. In ancient times, before the arrival of the ancestral canoes from Hawaiki, the ancient ones resided in Aotearoa. One day, at the request of one of the brothers of Maui-tikitiki, Ranginui created Matua te Mana (Mt Ruapehu), yet Matua te Mana's obvious loneliness made Ranginui cry. Two of his tears fell at the feet of Matua-te-Mana and one of these became the Whanganui River. Paerangi and Ruatipua, Whanganui Iwi's primary ancestors, then lived at one with the Whanganui River for many years before the arrival of the Great Migration Fleet from Hawaiki Rangiatea. Ruatipua draws mauri (lifeforce) from the headwaters of the Whanganui River on Mount Tongariro and its tributaries which stretch down to the sea. The connection of the tributaries to form the Whanganui River is mirrored by the interconnection through whakapapa of the descendents of Ruatipua and

Paerangi. Because the river is a tupuna awa, a river that is an ancestor itself, Whanganui Iwi have a responsibility towards the River to protect and care for it, embodied in the notion of *kaitiakitanga* (the act of guardianship)<sup>22</sup>.

Under Te Ruruku Whakatupua Whanganui Iwi's *tikanga* (culturally correct customary practices) "laws" relating to Te Awa Tupua are represented by Tupua te Kawa, allowing Te Ruruku Whakatupua to formalise informal rules. According to several interviewees this institutional change "won't change anything for Iwi" in the way that they use and interact with the River on a day-to-day basis, however, it will legitimise some customary activities, such as customary fishing activities and rituals. This decision is also "empowering *hapu* (sub-tribes) along the river", legitimising their beliefs and values with formal recognition through legislation.

The people of small towns that grace the riverbank also have daily contact with the River. There are several community groups that have developed in order to celebrate the River and keep its history alive that operate at a local and national level (Interview). There are 12(?-need to confirm) small businesses that support recreation on the river, with jet boat operations and canoe trips. Over 7000 people canoe the river each year, paying concessions to the Department of Conservation for access. The canoe trip down 145km of the Whanganui is known as one of New Zealand's Great Walks. The River is also an important recreational fishing ground, for which people must buy concessions from New Zealand Fish & Game. Many private property owners own land along the banks of the Whanganui and its tributaries, both in urban and rural settings. 151 of these people and groups have consents for water 'take', including Genesis Energy Limited. Genesis has a large daily impact on the River. For Whanganui Iwi, the development of the Tongariro Power Scheme damaged the *mauri* (life force) of the river and therefore the mana of the Iwi and the River. As explained by Hikaia Amohia (Ngati Haua): "For our people ihi, tapu, and mana go together. Each one is dependent upon the others. Any interference with nature, including the River, breaks the law of tapu, breaks the ihi or sacred affinity of our Maori people with the River; and reduces the mana and soul of the Whanganui River...When you interfere with the flow of the River, you are interfering with nature". The diversion also contributes to low flow levels and increased water quality concerns (Sunde, 2003). Genesis Energy and the TPD are

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<sup>22</sup> The concept of *kaitiakitanga* is not easily translated as it invokes much more than the notion of guardianship in the western sense. For an informative examination of the concept see Roberts et al., (1995).

not well regarded locally, despite their community and conservation efforts<sup>23</sup>. After many years of conflict and controversy, Whanganui Iwi and Genesis Energy signed an agreement in 2012 to withhold from further litigation after many years of conflict.

The community that sits within the defined boundaries of Te Awa Tupua is largely bicultural. History has been wrought with conflict between Iwi and the Crown, starting with contested relations in the early 19<sup>th</sup> century and continuing up to the current day. Unemployment levels are over two percent higher in Wanganui than the rest of New Zealand, sitting at 9.6% rather than 7.1% respectively (New Zealand Census of Population and Dwellings, 2013). There has been a general trend of people leaving the district over the past eight years. These trends are also seen in other small settlements along the River.

This agreement makes one major change at the operational level. It shifts the River from a resource unit to an actor. No longer can the River be considered a good that is tradeable and consumable and is talked 'about', instead it must be talked 'to' and interacted 'with'. From a practical perspective, this may not change much at the operational level – indeed many community members showed confusion about how to even interpret this concept (Interview). Yet it is an important distinction that may impact how they view the river and ultimately effect their interactions.

### *Collective level*

The established boundaries of Te Awa Tupua identified in Te Ruruku Whakatupua will have the greatest impact on the decisions made at the collective choice level<sup>24</sup>. Actors at the collective-choice level develop many of the rules that constrain actors at the operational level. This responsibility was vested in local governments by the Local Government Act 2002. Four regional authorities are to be involved in the management of Te Awa Tupua. The Wanganui, Stratford, and Ruapehu District Councils have the operational responsibilities associated with the urban areas within the catchment. Relative to the governance of the Whanganui River, the District Councils are responsible for the provision of local infrastructure, for environmental health and safety, and for controlling the effects of land use and the surface of river systems. These responsibilities are formalised by District Plans, which identify formal rules that permit or prohibit various activities. Constitutional level legislation

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<sup>23</sup> Genesis is involved with the development of conservation efforts for the endangered *whio* (blue duck).

<sup>24</sup> These are the catchment boundaries of the Whanganui River

requires all three District Councils to consult with Iwi about decisions affecting the River, however, Iwi were generally considered 'stakeholders' or interested parties<sup>25</sup>. By incorporating Iwi's worldview into the primary piece of guiding governance legislation for the River and recognising the interwoven relationship of Iwi and Te Awa Tupua, the power dynamic between Iwi and the councils will necessarily have to change<sup>26</sup>. Rather than Iwi being considered stakeholders, they now must be considered as part of the River and thus placed in a primary position in the decision-making process. This will require increased communication and dialogue amongst managing actors within the collective choice level and between actors across levels.

Horizons Regional Council, which manages the Whanganui-Manawatu region, will be affected in a similar way, both in terms of how decisions are made and the power dynamics of the relationships between actors. Horizons is responsible for administering the One Plan (2013), a Regional Plan focused on managing the effects of freshwater use through the allocation of consents to use as well as managing the Whanganui River and mitigating soil erosion and flood control<sup>27</sup>. The Plan specifies graduated sanctions in the way of fines for breaches and infringements. Avenues have been available to settle these disputes outside of the Court to try and avoid unnecessary transaction costs. Persons have been able to appeal council decisions relating to issuing or not issuing resource consents to the Environment Court. Thereafter appeals are restricted to points of law and go in order to the High Court, Court of Appeal, and lastly to the Supreme Court. Now where injury to the health and wellbeing of Te Awa Tupua is concerned or where Te Awa Tupua has caused injury to others the case may be settled in court directly between Te Awa Tupua and the plaintiff (or defendant).

The power dynamics and dialogue channels between Iwi and the Regional Council are also likely to shift as a result of Te Ruruku Whakatupua. In 2002, Horizons Regional Council produced a Whanganui River Management Plan. The wording of this management plan is indicative of how much things will be required to change following Te Ruruku Whakatupua. In the Management Plan Iwi are referred to as 'stakeholders' and although consultation is recognised as 'necessary', there is an

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<sup>25</sup> The RMA specifically requires that when regional councils and territorial authorities prepare or change their territorial plans, they must give regard to "...any relevant planning document recognized by an iwi authority affected by [their] plan" [ss66(c)(ii); 74(b)(ii)].

<sup>26</sup> In practice whether this will be a substantial change or simply a mechanism that provides Iwi with a louder voice will have to be seen.

<sup>27</sup> Regional Plans are guided by the Resource Management Act 1991, a centrally administered piece of legislation.



obvious power asymmetry in the relationship. This settlement will inevitably realign this. By acknowledging the interconnectedness of Iwi and the Awa and requiring that managers consult *'with'* the Awa rather *'about'* the Awa, by necessity local government managers will have to now consult with Iwi in all matters regarding the river system.

The local area office of the Department of Conservation (DoC) is also necessarily involved with the management of Te Awa Tupua. Although the main river channel is not considered part of Whanganui National Park, ??? kms of its length weaves through the Park and the Tonagiro Whanganui Taranaki Conservancy is responsible for helping to provide ecosystem services that benefit the health of the Whanganui River (Interview). In addition, the Conservancy is involved in the management of recreational users of the River and disaster management (Interview). The guiding management document, the Whanganui National Park Management Plan 2012-2022, is relatively unique in the New Zealand context as it was developed over several years in partnership with Whanganui Iwi (Interview). It therefore acknowledges the special relationship Whanganui Iwi has with the Park and Te Awa Tupua. It also makes concessions to Whanganui Iwi's aspirations for a Maori National Park and aims to seek common values that will inform and strengthen 'collaborative management'. These have been formalised through three separate Memorandums of Understanding with different tribal groups in addition to the commitments made in the Management Plan. DoC is also required to be in consultation with key stakeholders including statutory agencies, community groups, charitable organisations, individual actors, and the general public. This consultation will now have to include the Awa represented by Te Pou Tupua.

All local authorities provide monitoring and enforcement according to the rules and regulations specified in their respective Plans. These have previously been guided by the goals of the Resource Management Act 1991, which aims to balance the science of ecosystem management with the economics of development. The new arrangement may require new approaches to monitoring and enforcing through requirements stipulated by Te Heke Ngahuru ki Te Awa Tupua. Guided by the four intrinsic values, the strategy group, Te Kopuka na Te Awa Tupua, is required to place the health and wellbeing of Te Awa Tupua first in their development of Te Heke. The resulting document may not only require a change in management priorities but also in how the Plans are monitored and enforced.

Ultimately, by allocating Te Awa Tupua legal rights, the role of Te Pou Tupua emerges by necessity. Like a child under guardianship, the river is essentially going to be held in trust. By placing the river into trust, the Crown turns over its bundle of rights to Te Pou Tupua, separating the property's legal ownership and control from its equitable ownership and benefits. The Trust Deed, Te Ruruku Whakatupua under Tutuku Whakatupua Te Mana o te Iwi o Whanganui, defines Te Awa Tupua as the equitable beneficiary whilst Te Pou Tupua is identified as the trustee with a fiduciary duty to act for and on behalf of the river. In turn this essentially shifts responsibility for the river in terms of entry, withdrawal, exclusion, and alienation from the legislature to the judiciary. Management rights, however, are largely vested in the community through the responsibilities placed in Te Kopuka na Te Awa Tupua.

Consequently, at the collective-choice level, the three major changes to management are likely to be: the inclusion of Te Awa Tupua (represented by Te Pou Tupua) in decision making processes requiring a shift in ownership rights from the legislature to the judiciary (this could also be considered to effect the constitutional and operational levels); the readjustment of the power dynamic between Iwi and local government managers, redefining the relationship as a partnership rather than one defined by the roles of manager and stakeholder; and finally the introduction of Te Pou Tupua to decision forums necessarily nests community governance within the decision-making framework through the inclusion of Te Kopuka na Te Awa Tupua. This introduces an important dimension to this institutional change through nesting a strong community governance arrangement within the new property rights regime.

#### *Constitutional level*

Te Ruruku Whakatupua is an agreement made at the constitutional choice level of governance. In New Zealand legislation and judicial decisions at the constitutional level provide guidance for management of public goods and common pool resources at the collective-choice level and use at the operational-choice level. They are also influenced by feedback from each of these levels of choice. The main guiding framework for the provision of public goods and common pool resources is the Resource Management Act (RMA) 1991, whilst the Treaty of Waitangi and the Local Government Act 2002 provide a framework for governance. At its conception the RMA was an internationally unique and forward-thinking piece of legislation with a single purpose "...to promote the sustainable management of natural and physical

resources” [section 5(1)]<sup>28</sup>. In doing so managers (generally those at the collective action level) are required to consider the cultural, social, and economic well-being of communities and balance this against the needs of future generations<sup>29</sup>.

The RMA requires that for every development project proposed, ‘matters of national importance’ must be recognised and provided for [s.6]. As they relate to Te Awa Tupua, these include the preservation of the natural character of the coastal environment; the protection of outstanding natural features and landscapes; protection of significant indigenous vegetation and habitats of indigenous fauna; and public access to the coast, lakes, and rivers [s....]. Section 6(e) and 6(g) are relevant to Maori: “The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga” [s6(e)]; and: “The protection of protected customary rights” [s6(g)]. In addition, the Act specifies ‘other matters’ that those exercising functions under the Act shall have particular regard to including kaitiakitanga; the efficient use and development of natural and physical resources; the efficiency of the end use of energy; the maintenance and enhancement of amenity values; intrinsic values of ecosystems; the maintenance and enhancement of the quality of the environment; any finite characteristics of natural and physical resources; the protection of the habitat of trout and salmon; the effects of climate change; and the benefits to be derived from the use and development of renewable energy. Finally, the “principles of the Treaty of Waitangi” shall be taken into account [s8].

Prior to *Te Ruruku Whakatupua* disputes between the Crown and Iwi were settled through judicial process based on English common law<sup>30</sup>. Since 1873, Iwi had been fighting to receive receive recognition of Iwi ‘ownership’ of the river making the claim the longest running in New Zealand’s history. Iwi focused on claiming ‘ownership’ in the western sense for many years, as this was the only recognisable avenue in the judicial and legislative framework (Interview). In 1975, the Treaty of Waitangi Act provided a new opportunity for their non-statutory grievances to be assessed through the freshly established Waitangi Tribunal. Although the Tribunal did not have powers

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<sup>28</sup> “Sustainable management” means the use, development, and protection of natural and physical resources in 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. This is to be balanced by the needs of future generations; the safeguarding of the life-supporting capacities of air, water, soil, and ecosystems; and the avoidance, remediation or mitigation of adverse effects of activities on the environment. [Appendix C: ‘Part II, Purpose and Principles’ (sections 5-8).]

<sup>29</sup> The Local Government Act 2002 empowers local authorities to develop the policy necessary to achieve these goals.

<sup>30</sup> Many early disputes were settled through active battle and...

to make binding recommendations, their reports were able to influence attitudes and policies by focusing on environmental infringements of detriment to Maori culture and recommending governance alternatives for local government authorities. The consequent Wai167 Whanganui River Report 1999 provided recommendations for alternative governance arrangements for the Whanganui River that included greater recognition of Iwi's worldview. Although Te Ruruku Whakatupua does not expressly follow the recommendations of the Report, a combination of 'timing, influence, political will, and social attitudes' combined to provide a space for the development of Te Ruruku Whakatupua (Interview).

Te Ruruku Whakatupua is going to work as an overarching framework that will influence over 25 statutes with working rules-in-use at the constitutional level (s2.10). Any person exercising functions, duties or powers under any one of these statutes must recognise and provide for the status of Te Awa Tupua and Tupua te Kawa as well as give particular regard to Te Heke Ngahuru. By acknowledging Te Awa Tupua as an actor and making decisions based on the four values, it redefines the interactions and considerations of the statutory authorities, including the Ministry for the Environment, the Ministry of Primary Industries, and the Department of Conservation, during the legislative process. It also is going to challenge the decisions made by those working in the national interest. Whanganui Iwi does not consider hydropower as a renewable resource and considers the Tongariro Power Development a breach of mana. Although Genesis' existing consents to flow are to remain under this new institutional arrangement, what will happen in the future is unclear. There is certainly room for a conflict of interest in future decision-making processes, especially as international pressures increase to address climate change amongst other considerations.

## **5. Discussion**

Previously governance of the Whanganui River used a relatively recognisable multi-level structure (Hooghe and Marks, 2003). Rules were made at the constitutional level that aimed to balance environmental protection and economic development whilst devolving much control to local government. This was principally done through the Resource Management Act 1991 and the Local Governments Act 2002. Although, attempts were made to incorporate local values and norms into legislation

at both the constitutional and collective choice levels, they were not often considered effective (Coates, 2009; Waitangi Tribunal, 1999). At the collective choice level, Whanganui Iwi were considered stakeholders, rather than partners in management (despite the designation of the Treaty of Waitangi), communication channels displayed an asymmetrical power balance, and trust between actors was poor. Property rights to use and management of the River lay with the Crown, which had its epistemological basis in western constructs, and the national interest largely prevailed in terms of prioritising use of the River.

Te Ruruku Whakatupua will potentially noticeably rearrange the governance structure of Te Awa Tupua by making three important changes. Firstly, by vesting property rights-in-use away from the Crown and placing them in the name of Te Awa Tupua itself, the river changes from being a resource unit to an actor with whom direct interaction can be had (through Te Pou Tupua). Because the River is unable to speak for itself the River is required to have appointed guardians. This creates the second major change. Although the river is now considered to hold the property rights-in-use, the real rights' holder becomes the judiciary. By placing the river in Trust, the judiciary becomes responsible for the right to entry, withdrawal, exclusion, and alienation. The rights to management, however, are vested in the community through Te Kopuka na Te Awa Tupua. This represents the third major change to the property rights arrangement resulting from Te Ruruku Whakatupua.

These changes are likely to have several impacts on the variables deemed influential in the success or failure of social dilemma institutions: transaction costs; social capital; and, leadership. As it relates to the three major changes identified, transaction costs might unavoidably increase for the governance of Te Awa Tupua in several ways. For instance, although Te Ruruku Whakatupua creates a clear goal for future governance of Te Awa Tupua by requiring the health and wellbeing of Te Awa Tupua to be provided for - what quantifies health and wellbeing of a river? Although the definition may be clarified by the strategy document, Te Heke Ngahuru ki Te Awa Tupua, the holistic nature of the concept is likely to make quantification difficult. Furthermore, a necessarily anthropocentric lens must be used for interpreting the concept, yet each person's elucidation may differ, especially as the beliefs and values of actors operating within the various action arenas are clearly heterogeneous. This hypothesis was supported by the interview process which

showed the interpretation of 'health and wellbeing' by interviewees to be inconsistent<sup>31</sup>.

This lack of consensus will potentially cause complexities across all levels of governance as actors work to interpret the terms. This complexity could be alleviated if Te Pou Tupua has a united interpretation of "health and wellbeing" and is able to provide guidance to policy makers and other actors, however, a lack of consensus between the two persons acting as Te Pou Tupua could increase transaction costs and impact the efficiency of governance.

An increase in transaction costs may also be an inevitable byproduct of introducing a new actor to the governance structure of the Whanganui River, thus increasing organisation costs (Rasmussen and Toshkov, 2014). The presence of Te Awa Tupua (represented by Te Pou Tupua) necessarily increases the number of interactions between actors across and within levels of governance. This new property rights structure requires that every decision at the collective and constitutional level affecting the Whanganui River must be made in discussion with Te Pou Tupua. Consequently each policy decision must include (at least) one additional interaction between actors. Based on the number of statutes this new framework is expected to affect, this may require an increase of over 30 formal interactions between government bodies and Te Pou Tupua, as well as many more between Te Pou Tupua and Te Karawao and Te Kopuka na Te Awa Tupua and even more at the operational level. The money allocated for these processes is indicative of how much this is intending to cost.

Te Pou Tupua also creates opportunities for increased rent-seeking behaviour within the Whanganui River governance structure. Although Te Pou Tupua is required to speak on behalf of the river, because the river can't speak for itself, determining whether Te Pou Tupua is speaking on behalf of the River or seeking economic rent is likely to ultimately fall into the hands of a judicial court, again shifting the responsibility of decision making from the legislature to the judiciary<sup>32</sup>. The big question is ultimately to become who gets to be the guardians? This is likely to impact both the likelihood of rent-seeking and the level of transaction costs resulting from the imposition of this new arrangement.

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<sup>31</sup> Although they did all tend to allude to ecosystem health in some way.

<sup>32</sup> The initial appointees can also remove one or either person acting as Te Pou Tupua when considered necessary.

This new institutional arrangement will only be resilient if the benefits to public good provision are shown to outweigh the costs (Ostrom, 2005). Despite the potential difficulties, there are several reasons why this may occur. Firstly, the new arrangement might meet many of the criteria specified by Elinor Ostrom (2005) for the identification successful institutions<sup>33</sup>. Tu Ruruku Whakatupua specifies a clearly defined resource boundary which is translatable into legislation. Because those that had cared for the resource for a long period of times defined this boundary, it is likely to improve its legitimacy (Mitchell, 2005). It also reduces the fragmentation of governance by focusing management at a catchment level, reducing potential conflicting incentives between actors within and across different jurisdictions within the catchment. Developing a catchment focus has been shown to improve environmental outcomes and efficiency of governance in several case studies previously (Collares-Pereira and Cox, 2004; Kerr, 2007; Postel and Thompson, 2005). How it will affect user boundaries is a little more uncertain at this stage.

Because the property rights structure considers existing private property rights and reflects local values and norms, it is also more likely to address the needs of those who use the River (Knox and Meinzen-Dick, 2001). Although this settlement introduces a new property rights structure, it is driven by local norms and values; it retains the existing water governance framework; and does not affect private property rights. This means that although existing policy is to be interpreted differently, the interactions between actors may change at the policy level, and the sanctioning mechanisms may change across all levels, the working rules themselves are still in place, providing constancy within the change.

The open and highly inclusive process associated with the development of Te Heke gives those actors affected by the change and opportunity to be involved with modification of the rules and goals of Te Awa Tupua's governance. Because of the breadth of the strategy group, this new arrangement provides for community governance within the legal framework. Community governance can address certain problems that cannot be handled either by individuals acting alone or by markets or centralised governance mechanisms. Communities can access information not available to either individuals or governments and more effectively and efficiently apply it to the situation at hand (Bowles and Gintis, 2002; Ostrom, 1990). Including

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<sup>33</sup> These criteria were expanded on by Cox et al. (2010) and these are what are referred to here.

the seventeen representative community members in governance of Te Awa Tupua opens up channels for dialogue, the development of trust and responsibility, and the inclusion of local norms into the decision-making process. As long as this arrangement does not end up only existing in principle and turning into a strawman, it has the ability to improve the success of governance of the river.

Local government already sets monitoring levels and use rules at a collective-choice level. Opportunities for improving the capacity of local monitoring will be addressed and provided for in Te Heke Ngahuru ki Te Awa Tupua. The presence of local monitoring can greatly improve the success of public good provision and common-pool resource use (Cox, 2010); however, it is often largely dependent on the presence of effective sanctions (Oliver, 1980; Ostrom, 1998; Posner, 1996).

Research has shown that different sanctioning mechanisms can incentivise and constrain behaviour in several (and often unexpected) ways. For instance although fines have often been considered to act as a disincentive for particular behaviours when English health authorities decided to incentivize blood donations by paying donors, instead of increasing, blood donations plummeted (Titmuss, 1969). Gneezy and Rustichini (2000) found that the effect of fining parents for picking up their child late from day-care increased tardiness levels by almost twice as much.

Predicting how Te Awa Tupua's ability to sue and be sued might impact peoples' cooperative behaviour and the success of the institution is difficult. This process creates two important changes to the sanctioning mechanism. Firstly, the interaction between actors is redefined to enable a case to be heard that involves only the plaintiff (the River) and the defendant (or vice versa) without the need of a third party. Depending on how this rule is interpreted and used, it could increase or decrease the efficiency of the governance regime. For instance, the fines for the breach of environmental rules and regulations have traditionally been low in New Zealand and have had little effect on peoples' behaviour (Interview). Increasing the potential liability for breaches of river health and wellbeing may change this, thus disincentivising peoples' willingness to harm the health and wellbeing of the river. Secondly, this new arrangement means that payoffs now must go directly to (or come from) the River itself. Understanding how this may effect peoples' voluntary contributions to public good provision would be a useful space for further research.

And finally, although this institution has been imposed externally, it comes layered with promises of the commitment of central government to continue developing the



relationships created by this agreement. It also identifies a commitment to community governance represented by the powers vested to Te Kopuka na Te Awa Tupua. Consequently, users and managers might be able to take confidence from the fact that they are not going to be challenged by governmental authorities with regards to their decisions. In several studies this was shown to be one of the most important factors for successful governance arrangements (Pagde et al., 2006; Turner, 1999).

In addition, this arrangement may also facilitate robust social capital through developing a governance arrangement founded on norms, trust, communication, and connectedness in networks and groups. Some authors have argued that this is one of the most important factors of successful and robust institutions (Gutierrez et al., 2011; Pretty, 2003; Sigmund et al., 2010). In addition, Whanganui Iwi has strong leaders driving this change who are focused on building capacity for the next generation to continue their legacy. When interviewees were asked about why Whanganui Iwi have been successful in engendering this new governance arrangement, respondents consistently replied that the Iwi's social norms had remained strong and the group was steered by powerful leaders.

Overall, the success of this institutional framework is going to depend on the eventual net marginal benefits that can be seen following the imposition of this new property rights arrangement. New costs and benefits can both be seen to potentially arise from this change. The final determination of the ratio is likely to affect the long-term stability of this arrangement and the likelihood that it is replicated for the management of other public goods and common-pool resources.

## **7. Conclusion**

This new institutional arrangement for governance of the Whanganui River in New Zealand has been heralded as a new approach for overcoming problems often seen in institutions designed to transcend social dilemmas. By vesting ownership rights away from the Crown and placing them in the name of the river itself, New Zealand has managed to incorporate two worldviews into one framework as well as potentially increasing social capital through the facilitation of new networks, communication, and by focusing on the development of trust. However, this new arrangement also has the potential to increase transaction costs and open up new opportunities for rent-

seeking. If either of these costs is too great, the institutional arrangement is unlikely to last in the long-term.

These alterations in costs and benefits can be seen as an effect of the changes to ownership of the bundle of property rights-in-use. By making Te Awa Tupua an actor, rights to entry, withdrawal, exclusion, and alienation are vested in the judiciary. This may either increase or decrease transaction costs depending on how the judiciary (and Te Pou Tupua) interprets their role. Who ends up being identified as Te Pou Tupua might also impact these costs still further, both in terms of transactions and potential rent-seeking. The allocation of management rights to the community might affect both costs and benefits – the transaction costs in terms of organisation and information may increase, yet the benefits of social capital are also likely to increase.

It will take several years to determine whether this institutional arrangement is an effective mechanism for overcoming social dilemmas; however, it is an interesting approach to governance that is likely to be of interest to many institutionalists interested in identifying new ways to transcend social dilemmas.

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